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EDITORIAL.

THE ADVANTAGES OF A SCIENTIFIC EDUCATION FOR THE PUBLIC.

In Dr. Herbert L. Burrell's presidential address, "New Duty of the Medical Profession: The Education of the Public in Scientific Medicine," at the fifty-ninth session of the American Medical Association, we note one point which dominates all the rest and that is the recurrence of the thought that so long as there is no close alliance between physicians and the public to effect the transmission of the best medical thought of to-day from the former to the latter, and its apprehension by the latter, progress in respect of the lessening of the evils resulting from ignorance can not attain the proportions desired by those medical men of light and leading, who from past experiences have learned the lesson that to batten down the corners of medical history and progress so that laymen cannot but regard medicine as a mysterious art and not as a science, is inimical to the health of the community.

This synoptic view of what one might call, an unnecessary predicament in the course of medical evolution, reflects but little credit on the exponents of the art and science of medicine. For with them has rested and will rest the penalties resulting from the defects in the enlightenment of the public, since it cannot be expected, in all reason, that the general education of a public is advanced enough to be cognizant, without instruction from the physicians, of the salient features of medical progress as they present themselves from year to year. That there is a way out of this difficulty has been tentatively tried by the free lectures on medical subjects in Chicago and at Harvard; experiments of so decided a success that Dr. Burrell needs no justification for saying that "free lectures to the public on selected medical subjects constitute one of the most useful methods of spreading information."

But when Dr. Burrell speaks of the press as a possible powerful agent for spreading the news pertaining to scientific medicine, even though his

suggestion that "these articles should be judiciously edited" be adopted, he displays an optimism that is quite childish, in so far as our press will always, on account of its prerogatives derived from freedom of speech, refuse the harnessing of its caprices whereby its existence with the masses might be jeopardized. This is not meant to be a scathing criticism of the strange blending of good and bad qualities as instanced in our daily papers; rather is it a mere statement not only of the peculiar conditions out of which our press arose but also of its purpose and its mission. If we have read aright what this mission is—and our many experiences as newspaper readers covering many years ought to count for much—we do not hesitate to say that as yet the prosperity of any one of our newspapers is not secure enough, from the publisher's point of view, to print only articles "signed and published under the authority of the Board of Public Instruction." Such articles by their weight and authority would undoubtedly appeal to numbers of readers, but if interspersed between those we now read, they would lose in interest and appear quite paradoxical for two very good reasons: First, without the reporters' irrepressible imagination even the serious reader, accustomed, as he has been, all these years to the imaginative writings as put out by these scribes, would be tempted to turn to the lighter and more engaging, though less truthful, article; and, secondly, the juxtaposition of the two would have all the drawbacks which result from a policy that would not be long in having its inconsistencies proclaimed from the housetops. Now what publisher of to-day, with his finger on the pulse of the masses, would consent to make disastrous inroads into his finances on the foolish grounds of inconsistencies that might not offend a handful of readers?

Verily Dr. Burrell's faith in the possibilities of the press and the already much-harassed family practitioner as educative factors in the spread of scientific medicine, ought to be rewarded by the recognition which is always given to an apperception that is *pure* enough to enjoy all the Kantian flavor which happily differentiates the term from mere perception. For not only is he not willing to suffer any encroachments on the domain of the family practitioner by the specialist, unless the practitioner and family are in complete accord, but he perceives with the additional apperceptive, *I think*, that "the well-educated family practitioner now has a new duty. He it is who should be the instructor of the family. This is particularly true in relation to the subjects which in medicine can not with propriety be taught the public in masses; these subjects may be taught most appropriately to the parents and, if need be, to the children by the physical counselor of the family."

Our sympathies have always been with the family practitioner for reasons only too well-known to every one to be mentioned here *in*

extenso. Of all the sorely tried individuals who are continually brought face to face with the nether side of life, its low lights and sordid tragedies, the family practitioner is easily in the lead for the reason that there is no escape for him. Again for reasons over which we as physicians have no control, since specialism is not only peculiar to medicine but to all the different kinds of education, his position as an authority is precarious, to say the least. Now are we to weaken this position more than obtains to-day by making him *less* of the time-honored doctor with medicines cordially hated by the younger members of the household but nevertheless taken quite dutifully, and *more* of the instructor of scientific medicine, whose high purpose should be to teach and warn and gently reprimand? Surely it is asking too much of the family practitioner whose hours for work have never been defined by ardent champions of normal work and rest, to assume the additional burden of instructor of scientific medicine when his rating as scientist, at least in educated families, is unfortunately so low at present that only scant attention would be paid to his words by worldly wise and unconvinced parents and the majority of their precocious children.

A MISGUIDED CONCEPTION OF PATRIOTISM.

Schopenhauer says: "I feel respect for the man—and he is one in a hundred—who, when he is waiting or sitting unoccupied, refrains from rattling or beating time with anything that happens to be handy—his stick, or knife and fork, or whatever else it may be. The probability is that he is thinking of something." Surely the German philosopher must have had some ideal man in mind when he penned his lines, for our observations in the past have taught us that the characteristics of man are decidedly against idleness of hands and activity of brain. Of course our studies are more or less confined to our own compatriots, but since human nature is the same the world over, it is not wandering far from the truth to say, that as long as the human race endures, idleness of hands will be considered, by the many, a badge of dishonor—the despicable sort that results from laziness.

At no time of the year is Schopenhauer's dictum more fallacious than on the day we celebrate in the brute fashion of the nomads and heathens of old, namely the Fourth of July, because though a few among us are idle and perhaps are thinking of the barbarities incident to the day, the fruits of our idleness and thinking are so small that instead of saying the man who should command our respect is one in a hundred, we must perforce admit that at least with us he is one in a hundred thousand or more, and that his "thinking of something" has rarely anything to do with the atrocious scenes about him. We are prompted to write in this

wise not only on account of the fewness of the thinkers who give vent to their indignation in the press but to the frivolity of a people whose serious thought is so decidedly evanescent that almost directly the calamitous day is over, other subjects of a more pleasing nature engross them.

Of the few who have thus far raised their voices in protest, in anticipation of this year's celebration, the authoress of the article "Our Barbarous Fourth" in the Century for June deserves some mention, if only to point out the obliquity of her point of view. Her citations from letters which were written her to show the mild and dignified observances among other civilized folk in connection with their own patriotic celebrations, while interesting, fail to make the shaft go home for the reason that no two peoples take their pleasures in exactly the same way. To tell us that Frenchmen as described by Marcel Prévost are refined when the wave of patriotism engulfs them on the 14th of July, that Dr. Eugène Richard writes a "touchingly beautiful account of the observance of Switzerland's birthday," that Professor Hugo Münsterberg of Harvard University gives a "delightful description of Germany's greatest festival, the Emperor's birthday," and that even the Japanese are calm and well-mannered in the face of patriotic excitements, may be quite a budget of news to some, but as a lesson in manners to those amongst us —and now we are speaking of the multitudes who have for years become inured only to one way of celebrating their national holiday—it has all the weaknesses of the many reprimands from foreign sources which have been ours by gratuity, ever since Mrs. Trollope took the initiative, some decades ago, to expatiate on our vulgarities, hoping thereby to whip us into some semblance of the orderly.

In view of what has not been accomplished by the many pratings on our execrable behavior, as prelected by many foreigners and a handful of temerarious native social philosophers, we deem the times ripe to inquire into the causes of our apathy to the barbarities so graphically illustrated on our national holiday. That some light may be thrown on our apparent sympathy with an annual carnage unknown in other countries, by stating that custom has somewhat hardened us to some of its most undesirable aspects, is not so much a plea for its continuance as an explanation of a peculiar mental attitude. Now it must be plain to all that when a people thinks lightly of the grave problems of life, problems which drive an older civilization to the furthest lengths of introspection, it cannot be expected to wax indignant because hands and feet, and sometimes lives, are sacrificed in pursuit of pleasures that have all the puerilities plus the dangers of an inadvertence peculiar to a patriotism born of a childish, or rather primitive, conception of prowess and hardihood.

Although it is a fact that placing a lighted match in a can filled with powder, igniting a giant firecracker, or using a pistol as only an amateur would, connotes danger to eyes, hands, and limbs in general, the inscrutability of the ways of man, especially when the emotions are fired by a patriotism founded on the objectives of noise, clamor and bluster, must be held responsible for our indulgence in a perennial avalanche of foolhardiness. The aftermath of every Fourth is an apocalypse of wretchedness; and despite the fact that the pundits insist that repetition of acts causing danger and discomfort eventuates in wisdom, our persistence in our ineffable stupidities on "the glorious day" falsifies the contention to so great an extent, that it would be the quintessence of superficiality to assert that with the coming of years the grim lesson will be sufficiently digested to cause reform. Only when the right sort of home education—the education that bespeaks a reverential spirit for order, for quiet and for the personal liberty of others—obtains with us, will the dawn of a saner conception of patriotism be effected.

THE EDUCABILITY OF DIFFERENT RACES AND TYPES.

Ethnic factors in education deserve far more medical attention than is given them, for it is a question of brain anatomy. The subject was touched upon by Edgar L. Hewitt some years ago (American Anthropologist, January, 1905) in an address to the Social Science Section of the American Association for the Advance of Science, though he did not mention the real reason for making any differences in the education of the races. It is about conceded that we have been wrong in forcing "higher education" on the Indian, for he can not comprehend or use it. The graduate of Carlisle goes back to blanket life and draws rations from the Government. We should have taught him how to make a living in the new environment thrust upon him. Similarly the higher education of the negro has been dropped because he could not absorb it, nearly all of the highly educated ones being half white or more so. An industrial education has been found to be the only one the full blood negro can accept, and remarkable success is rewarding these new efforts. The failures with the negro and Indian are now known to be due to the fact that neither one has the brain with which to do the higher thinking. Not only is that organ smaller, but it is of more primitive type, with fewer cells, convolutions and connecting fibres.

The same laws apply in a general way to variations in any one race. The work of Spitzka (Transactions American Philosophical Soc. Part IV—1907) and of numerous European anatomists show that on an average the brains of eminent men are larger and better organized than those of ordinary persons. The apparent exceptions are largely ex-

plained by the fact that eminence has been achieved by devotion to a limited specialty and there is a growing mass of evidence that it is due to special organization of limited areas of the brain. From these few instances attempts are now and then made to prove that intelligence is dependent upon "quality" of material—whatever that means—as though the total amount of brain matter were of no consequence.

Ethnic factors in our public schools then demand attention, for we are attempting to force many types of brain through the same course of training. Attention has repeatedly been called to the fact that in European countries illiteracy, in a very general way, is inversely proportional to the average brain weight of the nations. Where education is universal, the intelligence is already the highest. Illiteracy of native Americans descended from the higher European types, has been an enigma, except where isolation has been the cause. Some sections of the country where school advantages have been ample, are deplorably bad. Perhaps it is also a matter of incapacity as it has long been suspected that children drop out of school through mental inability to take the higher courses, not through necessity to make a living. If all this is true then it should be subject to anatomical proof, but unfortunately we know little about the brain. Is it not possible that with the lower races flocking here and lower types of natives, we are making the same mistake as with the Indian and negro—trying to train a brain which does not exist? Surely the matter is serious enough to demand professional study on the part of physicians. Every now and then there is an unwise assertion that the educational system is a failure, and a demand is made that it be replaced by an industrial education as at Tuskogee—the school to take the place of the old fashioned apprenticeship and the graduates turned out ready to make a living—a stride towards socialism. Yet there is just enough anatomical basis for these criticisms to cause us to pause and determine whether we are correct in thrusting higher education upon those unable to accept it, and whether the money had not better be spent upon the lower grades beyond which such a huge proportion of children never pass, reserving the higher courses for the few able to pass rigid tests as to ability. Perhaps a study of ethnic types in the high schools, colleges and universities will throw light on the subject. It is a huge, uncultivated field bound to give rich returns, as we may find that most of the types in the higher schools are descendants of immigrants from countries where there is a large number of higher schools per million of population, and that our lower types have no use for the higher schools for the same reason here as in Europe—inability to use them.

At least one thing is certain—the extreme necessity of training what brain exists in each little citizen. The public school system must be de-

veloped more and more. But we must strongly combat the popular delusion that such education causes an effect in the way of increased number of cells and fibres, for Donaldson (Growth of the Brain) shows that the cells cease their multiplication before birth. Even if there were an increase, there is no evidence that such acquired characters are ever transmitted. Pedagogs quite commonly assert that education for two or three generations will markedly increase the intelligence of the descendants, but there are no facts whatever upon which to base such an opinion. Indeed Greece was on the down grade at her greatest pedagogic period. Education is a process of making a better society of the material at hand by enhancing the economic value of each unit—eugenics does not enter the question at all. In Europe, apparently, it is intelligence which is developing education, and not education which has evolved the larger and better brains which characterize the higher races.

But it is wise to inquire whether the perpetuation of American institutions demands an education which was not obtained by the men who created those institutions in the seventeenth and eighteenth centuries. Will not the men with brains rise without prolonged education, as did Franklin, Lincoln and Garfield? Of course no one doubts the utmost importance of an advanced education to those who can take it and that our self-made men would be infinitely better off if they had been schooled, but are we not injurying too many boys by thrusting on them a training of which they are unable to profit in the struggle for existence? Thousands are starving in all the professions, who should be on the farms like their ancestors, raising healthy country lads instead of anemic, underfed city weaklings. The "failures" have muscles for mechanical work but not brains for intellectual labors, and if the muscles had been properly trained, they might not have been "failures." Percherons are not trained for the Derby, and our pedagogs may find therein why such a small percentage of children who enter a high school are able to graduate.

The great discussion now going on as to the large percentage of "backward" children in the public school, might end if it is shown that they are as far advanced for their age and brain as they should be, and that forcing them on may be injurious. In other words there is a danger that pedagogy, unchecked by ethnic brain studies, may lead itself astray unless each child's abilities are studied as carefully as a horseman studies a colt's, and then training adopted to suit each individual, for no two boys are exactly alike. Surely brain anatomy deserves more study, as it does seem that the medical profession is bound to become a powerful sociological instrument in more ways than the mere cure and prevention of disease.

A PAINTING WITH A STORY.

The possibilities of making a picture the instrument by which a fillip is dealt to that sort of stagnation which results from the dormancy of a most interesting subject, is well put and tragically described in the Hon. John Collier's painting "The Sentence of Death," now on exhibition at the Royal Academy, London. The purport of the painting can be understood by physicians at once, for the interrogative the artist wishes to convey to the thinking public, especially the medical part, is the rather ancient one, battered and frayed by many fatuous discussions, as to whether or no a physician should tell a patient the truth in regard to the hopelessness of his case.

That the artist is decidedly in favor of the physician withholding all knowledge bearing on the fatal outcome of the case, from his patient, is written large across his work, for the agony depicted on the young man's face when he hears his doom is so intense that it does not require a deal of imagination to realize his fearful mental anguish in anticipation of the end. But although these be the artist's sentiments, physicians at large cannot be guided by them in every instance, since not infrequently the importunities of a case make it imperative on him to ally himself with truth, or take the consequences of considerable opprobrium on the part of his fellow-practitioners for insincerity and prevarication. All of which leads up to the question whether a physician's duties lie with his patients or with the ethics of his profession. This is a very old question that even after many years of wrangling has not yet reached the outposts of solution; in fact, studious attention to the matter compels us to say that to vanquish criticism from physicians and laity alike, would require many masters of the art of fence. But even adepts would lack the acumen to make fine distinctions in certain cases where the choice lay between the dictates of stern duty, with its woeful mental consequences to a patient unsupported by the necessary ballast of stoicism, and the looseness of language making for much to assuage a patient's worst fears, but condemnatory unless the physician wishes to be criticised by his fellow-workers as a conscienceless unit in a profession in which conscience, in italics, is the watchword of conduct. Now though the artist of "The Sentence of Death" is to be commended for interpreting a mooted question in a masterly way, thereby reviving the *pros and cons* of a subject which our indifference allowed to rest in the fallow field of thought, we are not sure that the presentment of its tragical features will convey sufficient weight to make it a method of thought applicable to physicians. For at no time in a medical man's practice are his dilemmas so abysmal, as when he is called upon to be a blend of reasoner and humanitarian in the face of the Supreme Moment.

OPINION AND CRITICISM.

THE SPECIAL PSYCHOLOGY OF WOMEN.

Dr. Thomas Clay Shaw, Lecturer on Psychological Medicine at St. Bartholomew's Hospital, London, in a lecture recently delivered at the Institute of Hygiene, on the above subject, shows what manner of man he is, for his audacity, not to say his incisive originality, is quite unusual, since his coign of vantage is one that hitherto has not been taken by any scientist of standing when discussing the mental processes of woman, in their subjective and objective ramifications. When we remember how often we have stumbled on the difficult path of thought involved in the endless discussions as to the dis-association of mind in the two sexes, it is with a sense of relief that we read the virile words of this latest investigator. In respect of common sense could there be anything better than "there are men of whom it may be said that there is much of the woman in them and there are what are called masculine women who seem to be composed largely of the attributes of the male mind * * * we shall see that much depends upon education and environment and that except in one particular direction there is in reality little difference between the two classes of mind?" A recent essayist, in his book, "Apologia Diffidentis," says "there glimmers a wealth of truth in the penumbra beyond our lanterns," and though the truth of this axiom is written large in the history of all the sciences, custom plays so active a part where investigations are being prosecuted in search of scientific truths, that the conventional spirit often dominates the efforts of the investigator to such an extent that to throw it off, he must indeed be possessed of a great degree of originality and daring. Now all that Dr. Shaw says on the mental equality of the sexes is not only new but iconoclastic when we recollect the importance which scientists attach to the difference in weight between the brain of the man and that of the woman—an importance which suffers on account of the fact that "we know nothing positive about the relative qualities of the brain in the two sexes and no one can tell under the microscope whether he has a male or female brain to deal with." Having arrived at these startling conclusions one would think that Dr. Shaw would at once put on his buckler in defense of womankind eager for an extended suffrage that would not preclude judicial and political positions. But though scientifically daring and original, he weakens somewhat as an advanced sociologist, for the reason that he is fearful of the state's prosperity should

both sexes hold offices at the same time. His arguments for a monosexual judiciary made up of one or the other sex, are gracious enough to please some of the less aggressive female aspirants after judiciary and political honors, but they lack the force and trenchancy of that candid and greater psychologist and sociologist, Herbert Spencer, when he expressed his views on the same subject. In the recently published "Life and Letters of Herbert Spencer," by David Duncan, LL.D., is printed a characteristic letter of Spencer's addressed to John Stuart Mill, under date Yarrow, August 9, 1867, from which we quote the following excerpt. "Men in their political actions are too much swayed by proximate evils and benefits; and women would be thus swayed far more. Given some kind of social suffering to be cured or some boon to be got, and only the quite exceptional women would be able to appreciate detrimental reactions that would be entailed by legislative action. Political foresight of this kind, uncommon enough in men, is extremely rare in women. Of course whoever holds that the minds of men and women are alike will feel no difficulty of this kind. But I hold them to be unlike, both quantitatively and qualitatively. I believe the difference to result from a physiological necessity and that no amount of culture can obliterate it. And I believe further that the relative deficiency of the female mind is in just those most complex faculties, intellectual and moral, which have political action for their sphere."

AN EDGED CRITICISM.

Wm. H. Allen, writing in the June *Atlantic* on "A Broader Motive for School Hygiene," makes a number of pertinent remarks on a subject which generally receives but scant consideration. The small accomplishment of desired results from the usual instruction in school hygiene, has often struck observers with force, but that the reason lay with the teachers and not with the pupils, will come as a bit of news to those who wish to be classed with the discerning. It has been the custom, for many years, to ascribe the failure to grasp certain theories and the advantages of their practical application to the insuperable stupidity of pupils but that this idea is wrong the article in the *Atlantic Monthly* makes plain to us. According to the writer, our teachers are only moral censors when they teach school hygiene, for they aim their blows continually at "whiskey, beer, cigars and cigarettes," overlooking all along the importance of making "every school child a militant teetotaler who abstains from measles, typhoid, scarlet fever, tuberculosis, dirty streets, and impure air." Although it is a fact that stands foursquare that intoxicants and tobacco are not desirable adjuncts to our daily fare, to make them the target for the teachings of school hygiene, to the exclusion

of other important matters which lie in ambush to waylay the unwary, is making an unnecessary cult of certain bugbears dear to our penny-a-liners. Proper school hygiene should call to action, on the part of school children, an intelligence that would grasp the full meaning of all its elemental laws, not with the purpose of frightening them in case of inadvertent transgressions, but with the idea that only by a strict observance of the behests of Hygeia, can many diseases be avoided. That this is not done in our schools to-day is shown conclusively by the writer in the following excerpt which eight text-book writers relate: "A baby was once killed by washing its head with tobacco water; a boy once drank some whiskey from a flask and died soon after; any drink that contains alcohol is a poison to hurt and at last to kill; a boy who uses cigarettes is irresistibly led to a violation of the law; by giving drinks such as root beer to children an appetite for alcohol may be cultivated; the flesh of these unfortunate persons becoming saturated with alcohol took fire upon being exposed to a flame as of a lighted candle, or indeed without any external cause; nicotine stunts the growth of the (young) body as a whole, retards and weakens the nervous system, makes the user cross, peevish, and unfits him for the best society; a murderer was about to kill a baby and the little creature looked up into his face and smiled, 'but, he said, 'I drank a large glass of brandy and then I didn't care.'"

LITERARY NOTES.

In connection with the Türck-Czermak Jubilee recently held in Vienna, it would be well for all laryngologists, who are interested in the history of the laryngoscope, to read "Garcia the Centenarian and His Times," by M. Sterling Mackinlay, M. A., Oxon. (Edinburgh and London: William Blackwood and Sons.) In Chapter XIV. there are all the details of the controversy as to priority of discovery in connection with the laryngoscope. These details, while of small moment to the general practitioner, are fraught with considerable interest for the throat specialist, because he must feel that, especially as regards the discovery of the laryngoscope, honors should be given to him who deserves them. That Garcia was the first to see the interior of the throat by means of a mirror (it was his own throat, by the way), is beyond dispute; but not being a clinician, this one examination satisfied his curiosity, whereas, Türck and Czermak used the instrument for diagnostic purposes, thus bringing out its wonderful possibilities as a means to a great end—the proper and scientific treatment of innumerable diseases of the throat, which had hitherto baffled the physicians. How Garcia stumbled on the discovery is best told in the author's own words: "One

day in the September of 1854, when on a visit to Paris, he was standing in the Palais Royal. Suddenly there came to hime an idea. 'Why should I not *try* to see it?' How must this be done? Why, obviously by some means of reflection. Then, like a flash, he seemed to see the two mirrors of the laryngoscope in their respective positions as though actually before his eyes. He went straight to Charrière, the surgical instrument maker, asked whether they happened to possess a small mirror with a long handle, and was at once supplied with a dentist's mirror, which had been one of the failures of the London Exhibition of 1851. He bought it for six francs. Returning home, he placed against the uvula this little piece of glass, which he had heated with warm water and carefully dried. Then, with a hand-mirror, he flashed on to its surface a ray of sunlight. By good fortune he hit upon the proper angle at the very first attempt. There before his eyes appeared the glottis, wide open and so fully exposed that he could see a portion of the trachea. So dumbfounded was he that he sat down aghast for several minutes. On recovering from his amazement, he gazed intently for some time at the changes which were presented to his vision while the various tones were being emitted. From what he witnessed it was easy to conclude that his theory, attributing to the glottis alone the power of engendering sound, was confirmed, and thence it followed that the different positions taken by the larynx in the front of the throat had no action whatever in the formation of the sound. At last he tore himself away, and wrote a description of what he had seen."

Professor Dubois of Berne, Switzerland, shows in his new book, "The Education of Oneself" (L'Education de soi-même. Paris: Masson et Cie.), that he is the fortunate possessor of the gentle qualities of the philosophy of introspection, not to mention the high literary charm, to which we have become accustomed in A. C. Benson's "The Upton Letters," "From a College Window," and "Beside Still Waters." The titles of the chapters—The Conquest of Happiness, Conscience, Education, Egoism and Altruism, Meditative Thought, Humility, Moderation, Patience, Sincerity, etc.,—are in themselves instructive enough to convey to the reader, at once, the sort of book he has in hand. And that the sort is good will be shown him after reading a few pages, for here are no imprecations against the littleness and falsehood of mankind, in the manner of Shakespeare's Timon of Athens, but the kindliest advice and the gentlest instruction on disciplinary attitude towards ourselves and forbearance towards others. The tendency of the times, as expressed in latter-day essays, is to a great extent taken up with the betterment of character, the development of the gentler human qualities, and the furtherance of a spirit of toleration; and that Professor Dubois is at one with this tendency, the book before us bears excellent witness.

ORIGINAL ARTICLES.

UNILATERAL DISLOCATION OF THE CERVICAL VERTEBRAE.*

By Malvern B. Clopton, M. D., of St. Louis.

Any discussion of this not unusual accident would be uncalled for, were it not for the fact that occasionally uncomplicated dislocations are overlooked, and there is a small number of cases which present at the start few cord lesions, but gradually serious symptoms come on, which may terminate fatally unless an early reduction is affected. Another reason for bringing this subject before you is to draw attention to a simple effective method of treatment which was suggested some time ago, but improved and accurately described more recently by Walton.[1]

Frequence. As a contrast to our present knowledge, Sir Ashley Cooper,[2] who must typefy the best surgical mind of his time, says "If luxuation of the spine ever does occur, it is extremely rare, * * * since I have not met a single instance of it, those injuries all proved to be fractures with dislocations." In the later edition of his work his nephew has added instances of spinal dislocations, and he admits that the elder's views were incorrect. To determine the exact frequence of the unilateral dislocation is impossible, but we can gather from the tables of Ashhurst,[3] who found 29 unilateral cases in 394 spinal injuries, that the lesion is one of the most frequent types of traumatic displacement of the spine. The great majority of all spinal dislocations are of the cervical region, because the bodies in this region are small, and the interlocking of the articular processes is less firm than lower in the column. The fifth cervical vertebra is most commonly dislocated, as might be expected from the fact that in the neck flexion and extension are freest between the third and sixth vertebræ. Dislocation is rendered easy by the comparative horizontal position of the articular processes in the cervical region. Probably some of these dislocations go unrecognized from the lack of familiarity of the practitioner with the characteristic features, perhaps also from a hesitancy to make a diagnosis of so serious a condition. But there are a great number of individual cases reported, and in more recent literature the observations have been of the uncomplicated cases, in contrast to the earlier reports which dealt in large proportion with the fatal cases that had come to autopsy.

Pathology. In this lesion, the articular process of the upper vertebra on the dislocated side slips forward; in the incomplete form it rests on the crest of the lower articular facet, in the complete form it drops into the intervertebral notch and rests on the pedicle of vertebra below. The articulation on the opposite side holds. The intervertebral disc may not be torn. Only in one instance has the vertebral artery been noted as

*Read before the St. Louis Surgical Society, February 12, 1908.

torn. The spinal canal is very slightly encroached upon, due to the backward expansion of the lower borders of the laminæ. In the cases where the cord lesions are marked the force applied was always external, and most frequently direct. Of the nerve and cord lesion more will be said later. While in the records of the cases examined no instance of unilateral dislocation of the first or second vertebra have been observed, there are no reasons why such dislocations might not occur, and bearing in mind that in the upper three articulations, cord pressure would involve the centers for the phrenic and death would ensue from respiratory inhibition, the lack of recorded instances of this injury speaks for the extreme rarity of this dislocation. From the third to the sixth vertebra numerous instances are noted, most frequently the fifth.

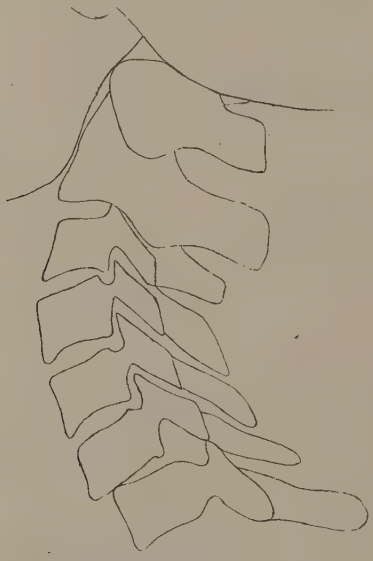

Fig. 1.—Incomplete unilateral dislocation of 6th cervical vertebra. (Tracing from x ray of Case II.)

Symptoms. The symptoms described are for these lower joints. The position of the head and neck direct to a correct understanding. Making allowances in rare cases for a compensating turning of the head at the atlo-axoid joint, the picture generally presented is quite constant. With the dislocation of the articular process on the right the head and face are rotated to the left. If the dislocation is incomplete with the articular facets still in contact at the extreme limits, the neck and head is directed away from the dislocated side; if the articular process has slipped into the intervertebral notch and the dislocation is complete, the neck and head are tilted toward the dislocation side. As Walton[4] says: "The side on which dislocation has occurred can always be determined therefore by the direction of rotation: the question whether

the articular process has slipped into the notch, may be determined by the tilting of the head." In bilateral dislocation the head will be carried forward and tilted backward.

One of the cases I have observed will serve as typical of the uncomplicated unilateral dislocations, in this instance of the left side.

C. H., a healthy muscular youth of 19, during an athletic exhibition was walking on his hands. His right arm weakened under him and he fell, striking his head on the left side and coming down on his left shoulder. He heard a distinct snap just after his head struck and felt a sudden pain in his neck and realized that he was unable to bend his neck. He walked away and later visited a dispensary where liniment was ordered for the soreness, the injury being unrecognized, and later the same day he visited another clinic, where on account of the serious nature of the injury he was referred to the Mullanphy Hospital, where I saw him 24 hours after the accident. He was up and about, as any reclining posture gave him great pain, and he had been unable to sleep the night before. His neck and head were held rigidly, the face turned to the right and downward. The neck was directed slightly to the left and low in the base of the neck on the left side was a rounded enlargement which was very tender. The sterno-mastoid on the left side was relaxed, but on the right side it was tight. Movement was limited to a slight forward and backward nod of the head, and any attempt to straighten the head was very painful. On account of the much developed musculature it was impossible to feel with any certainty the spinous processes or to determine what was the nature of the enlargement on the lower left neck or to make out the transverse processes. There were no nerve disturbances of the arms or any part of the body, he walked perfectly well, but complained of some pain in the neck with the jolting of each step. To confirm the diagnosis of left unilateral dislocation of the sixth cervical, an x ray photograph was made. Under ether, which was administered to the patient while in the setting position, a reduction was easily accomplished by the "recto-lateral flexion with rotation method," which I shall speak of later.

This case is reported at length because it illustrated most of the points of diagnosis. The position of torticollis, with the wrong sterno-mastoid taught, the enlargement at the root of the neck, made up of the displaced transverse processes with contracted muscles, make the pathognomic signs. The spinous processes, except in muscular subjects, can usually be felt, with those above the level of the dislocation rotated to the side of dislocation. The bodies of the upper three or four vertebræ when dislocated can be felt or seen in the pharynx.

By far the most important features of these cases are the nerve and cord symptoms, which are less severe in dislocation of one side than when the whole vertebra slips forward, and many times there may be no symptoms of any nerve injury. The breadth of the canal and the relatively small size of the cord, allow these slight displacements to leave sufficient of the lumen for the safe passage of the cord. As Blasius determined it is almost always only a simple compression of the cord without crushing. If there is much pressure on the cord the veins are prominent, the face suffused, the eyes prominent and the patient suffers

great distress and there may be disphagia. Paralysis may come on early or late and it is not uncommon for parasthesia to be experienced in the extremities. In the 12 cases that have come under Walton's observation paralysis (obviously from root pressure) occurred only in two. Occasionally cases show few or no paralytic or nervous symptoms to start with, but soon increasing and becoming more dangerous in character, they may lead to early death or leave a lingering paralytic to wear out from exhaustion. In a case mentioned by Liddell,[5] where paralysis with dysphagia instantly appeared, death ensued in 6 hours, and on dis-

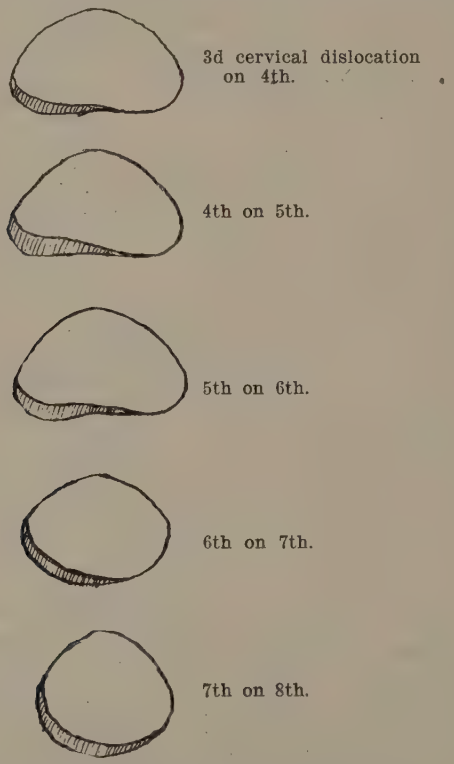

Fig. 2.—Outline of bony canal, shaded part showing the amount of incroachment in unilateral dislocations.

section an incomplete unilateral dislocation of a cervical vertebra was found. In Reyburn's[6] case a unilateral dislocation of the fifth cervical was followed immediately by a slight hemiplegia, which continued to increase, after two unsuccessful attempts at reduction, and when reduction was accomplished nine weeks after the injury the rapid prognosis of the paralysis was not checked and the patient lingered two weeks longer, when he died and an abscess was discovered in the center of a much softened and congested cord. Thus if patients survive long

enough, signs of a more or less acute inflammation appear. While this reaction is not frequent or usually severe, yet in a number of cases pus has been found in the meninges or even in the center of the cord, or the cord may be softened and change color or be reduced to a pulp. High up in the cervical region, there may be great dyspnoea, or instant death if the respiratory center in the medulla is involved. If the upper origin of the phrenic is involved (4th cervical) paralysis of the diaphragm and intercostals ensues and speedy death from asphyxia, but if below the fourth nerve origin, life may be prolonged by the uninterrupted activity of the diaphragm.

Haematomyelia is not an infrequent result of this injury. In six of Thorburn's[7] cases it was found. Simpson[8] quotes Martini, who had a case of diastasis with a clot 3 cm. long in the center of the cord, and also mentions a case Quénu. Kocker[9] and Wagner[10] each report a case.

Diagnosis. As Keen[11] puts it, diagnosis is established rather on probability, based on rigidity of the neck, its curve in the position of wry neck and the twist turning the face to the opposite side. To distinguish from torticollis, the contraction of the sterno-mastoid is the guide, which in wry neck is taught on the side away from which the face is turned, but in unilateral dislocation is taught on the side to which the face is turned. Simpson[8] states that cases occur where diagnosis between muscular rheumatism and unilateral dislocation by muscular action can only be made by an attempt to reduce the displacement. In caries of the spine as in the other conditions, the history of the case is important. Perhaps the greatest aid in diagnosis however is the x ray, and by antero-poterior and lateral views we gain informaton of a definite nature. While some contend that the antero-posterior plate is the most valuable, it is shown by one of the accompanying cuts (Fig. 1), that at times we can show in the lateral view a most distinct picture even in dislocations of the 6th vertebra in a large muscular man.

Etiology. Unilateral dislocation is produced by carrying movements beyond the normal limits by any force which over-abducts or over-rotates the upper part of the column. Volker[12] collected 14 cases where the displacement was due to muscular action alone and two of Walton's cases gave similar histories, one, a tall slender man of 28 years, had an incomplete dislocation while using military brushes, another, a child, while running around a corner turned her head sharply and it caught, due to a unilateral dislocation of the 3rd vertebra. Schiele[13] reports a case of a man who went to sleep with his head hanging over the bed rail, and on waking suddenly lifted his head and incompletely dislocated one of the upper vertebræ. The movement which produces the lesion is sudden, violent, ill regulated turning, with perhaps an inclination to one side, and can be produced by muscular action as well as by external force. However the most frequent causes are falls or blows on the side of the head or neck, either acting directly or by force transmitted along the column. A case often cited was reported by Fayrer[14] of a girl 6½

years old who was suddenly lifted by her head from a bench to a table and in consequence suffered a dislocation of the 6th and 7th vertebræ, with a probable fracture.

Prognosis. In unilateral dislocation the prognosis is much more favorable than in bilateral cases. The reports of more recent dates, when those cases with few symptoms are being recognized, show that the injury is not nearly so serious as formerly supposed. In 25 recent cases in the literature there has been no death. Ashurst however showed 9 deaths in his 29 cases, and numerous instances of death have been reported since his monograph. If death follows the injury it is usually within a week, but there are instances of long survival. Such was Reyburn's case, reduced 9 weeks after the accident, but this did not stop the progressive decline which ended two weeks later. Malgaigne[15] gives particulars of 9 fatal cases of this dislocation and of 17 in which recovery took place. Death in the fatal cases did not take place as rapidly as might be expected, in one case the patient lived 40 days, another 101 days after the injury. Those dislocations above the origin of the phrenic nerve are the most fatal. While the symptoms may in any case be delayed, in no case should reduction be postponed, particularly in the progressive lesions where in cases of dangerous character and of increasing severity reduction has brought prompt relief.

Treatment. Dislocation from muscular action is usually reduced easily without an anesthetic. Spontaneous reduction is not uncommon. Blasius' boy who, after unsuccessful efforts on the part of the surgeon, later took the matter in his own hands and reduced the dislocation by standing against a wall and pressing backward against the neck, is often quoted. Walton states that of 7 cases, which have more recently come to his knowledge 2 have been replaced in sleep, 3 during preliminary anasthesia, and 2 by manipulation, and he mentions a case of Warren's spontaneously reduced by the patient's involuntary movements while cold water was being applied to the spine. It is more likely however that some manipulation will be necessary and I have found in two cases that the method suggested by Walton is sufficient. He states that in any attempt to separate the two vertebræ by extension, as was the most general practice, the vertebræ must be widely separated at every point in order that the dislocated articular process be elevated sufficiently to slip back in place, and it seems almost incredible to him that reduction was ever accomplished in this way, and it must be that abduction and rotation were added to extension. The method he proposes is a refinement of similar plans proposed by Richet and Hueter,[16] discarding extension entirely. The anesthetized patient sits in a chair. The operator stands behind and using both hands grasps the head which is rocked without traction, for traction only lessens the effectiveness of the fulcrum on the sound side. Slight rotation to carry the dislocated process forward to free it, is first practiced. The head and neck are then tilted to the sound side and backward (that is if the patient with a left dislo-

cation is facing north the head is tilted southeast). This makes the dislocated articular facet rise above the facet below. The last motion is the rotation of the column backward into place, and the reduction is complete. The method is styled "retro-lateral flexion with rotation." The earliest reduction is desirable but there are several cases of late reduction, Mixter notes cases after six months and Keen after 4 months and 7 months. Thorburn[7] in a series of 41 cases found reduction in 35. He relates a case of apparently successful reduction attended by a distinct snap in which autopsy 3 years later showed reduction was only apparent. Several instances of a recurrence of the dislocation are on record. The second case I have to report is of this nature.

W. H. A., aet 32, an instructor in gymnastics, was admitted to St. Luke's, July, 1904. He gave a history of having the pole break while pole vaulting four weeks before. He fell from mid air onto the right shoulder, head and back. He was unconscious for a short time, and on regaining his senses found his neck and head fixed. There were stinging pains in his elbows yet he was able to use both arms for all movements. Below the wrists there was a sensation as though his hands were asleep, particularly the tips of the fingers. There was some slight lessening of power in the right arm. During the interval before consulting Dr. Mudd, no attempt at reduction had been made, only hot applications applied to his neck. At this time Dr. Mudd reduced the dislocation under anesthesia by traction and rotation and put him in a plaster of Paris dressing. After a week he went home still in the plaster collar, which was cut and the neck inspected ten days after reduction and no deformity noted. He was not seen by me until two weeks after this last consultation with Dr. Mudd. Then in spite of the plaster collar he held his head tilted to the left, the face looking straight ahead. The head was held rigidly in this position, and any motion was painful. He did not recall the time when this position came on, in fact was not conscious of anything unusual in his neck. The arms showed no muscular or nerve disturbance except the persistence of tingling in the middle finger of the right hand. As the picture suggested a partial luxation, I took some x ray pictures which showed the right transverse process of the 6th vertebra riding upward upon, but not over, the facet of the 7th. The following day under an anesthetic the reduction was easily accomplished by Walton's method. A large Thomas paste board collar was put on and worn three weeks when it was discarded, with no recurrence of any trouble.

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SERUM DISEASE AS A CLINICAL MANIFESTATION OF ANAPHYLAXIS.

By E. W. Saunders, M. D., of St. Louis.

Very soon after the discovery and general use of anti-diphtheritic serum, the profession became acquainted with a group of phenomena, following the hypodermatic injection of normal, antitoxic or bactericidal serum, to which the name serum disease is now applied. In general, these symptoms consisted of eruptions and joint pains occurring in a certain proportion of cases. Physicians regarded these symptoms as an uncomfortable, though harmless, after-effect in susceptible individuals, and attributed the rashes to some toxic substance in the horse's blood-serum. We were mistaken. The symptoms observed were only a few of the phenomena which attend a very severe internal disturbance, due to the introduction of heterologous proteids in the circulation. Recent clinical and experimental investigations have revealed the fact that remarkable changes take place in the organism injected with the serum, so that the disturbance has been dignified by a special name—Serum disease.

Although manifest symptoms do not occur in more than one-third of all cases, the cellular reaction to the alien serum is probably present in every individual who receives an injection, and the phenomena of anaphylaxis may be observed to a greater or less degree, if the proper tests are made.

In some of the cases injected, varying from 10 to 40 per cent, after a period of five to twenty days, the patient becomes restless, and may complain of lassitude and pain in the limbs. This is soon followed by the serum exanthem, which is often accompanied by severe itching and burning. The serum rash varies in character. Most often erythematous patches, rose red in color, will be found covering various parts of the body. Next in frequency are urticarial lesions. Sometimes the eruption is distinctly scarlatiniform. Occasionally it resembles measles. The eruption may be polymorphous, wheals, erythematous patches and macules, being observed on various parts of the body at the same time. Occasionally a typical erythema multiforme, or erythema iris, with severe constitutional symptoms, occurs, especially after repeated injections of serum.

A very striking symptom is edema of the skin, which may be present only in certain circumscribed spots, or more rarely involve the whole integument, giving the person a ghastly, bloated appearance. A very serious form is the hemorrhagic type, in which hemorrhages occur in the skin. Fortunately this is rare.

The disturbance likewise is shown in the mucous membranes. Ery-

thematous spots may occur on the hard and soft palate. The fungiform papillæ of the tongue may be swollen, and give the tongue a raspberry appearance.

A very remarkable symptom, to which I drew attention about ten years ago, is dysmenorrhea in women. When a young woman receives a dose of diphtheria antitoxin within two weeks of her menstrual period, she is very likely to suffer severe pain, and an increase of flow at the subsequent catamenia.

Joint pains are frequently observed. One or more of the joints may become very tender to touch and to movement. Muscular pains are very common. Articular swelling may be present. The wrists, knees, hips, elbows, ankles and shoulder are most frequently implicated.

That the disease is a general disturbance is proven by the fact that an elevation of temperature is frequently present. The fever may be very high. Vomiting and diarrhea occur in a small proportion of cases.

In 1899, after repeated injections of diphtheria antitoxin in the babies of the Bethesda Foundlings' Home, I had the opportunity to observe in several cases the sensitizing effect of a previous injection. We found that many of the infants who had received an immunizing dose six weeks previously, showed a very marked supersensibility to the second injection. The symptoms of serum disease, which are usually delayed a week or more, came on within a few minutes, and with much greater violence. I reported these observations in the St. Louis *Courier of Medicine,* 1899. Although the explanation given then does not entirely harmonize with the present debated theories, the occurrance of a supersibility and the clinical symptoms were clearly depicted.

The condition of anaphylaxis is sometimes remarkably protracted. Thus, in one instance, in a little girl who received an injection of antidiphtheritic serum four years previously, another injection of the so-called globulin antitoxin produced violent symptoms in a few hours. In experimental anaphylaxis, Rosenan and Anderson found the condition persisting for several months. It is possible that this supersensitiveness may remain throughout life in certain individuals, and that it may be transmitted to offspring, as is the case in guinea-pigs.

The symptoms of this second reaction are very similar to those of the primary disease, but supervene very soon after the second injection, sometimes within a few minutes. There may be chill, convulsions and sudden high fever. The respiration becomes very rapid, the pulse accelerated, and the patient shows great anxiety. In some cases a severe dermatitis, with local pain around the site of the injection, appears. Bolton reported a case of local gangrene, a condition that frequently occurs in anaphylactic rabbits.

As far as I can learn, no cases of death have occurred in human beings by the *repeated* injections of horse serum, yet the severe symptoms which sometimes occur, and the fact that gangrene and death are so frequent in animals, convinces the clinician that antitonic horse serum is by no means a remedy which can be used carelessly or indiscriminately.

Another form of supersensitiveness occurs in certain individuals who have not had a previous injection of antitoxin. Quite a number of cases have been reported, and I have seen a number myself, in which the immediate serum reaction occurred, and yet the patient injected had never before had a dose of horse serum. No explanation can be offered for these cases at present except that of idiosyncracy.

Finally, another form of supersensitiveness is found in those rare instances in which sudden death occurs after an immunizing or curative dose of diphtheria antitoxin in those injected for the first time. Patients suffering with asthma, Graves' disease and lymphatism, are most apt to show this fatal supersensitiveness. Quite a number of cases have lately been reported. The symptoms in these fatal cases, in general, resemble those of animals made supersensitive to serum, and receiving a fatal dose. Severe dyspnea, rapid respiration, cyanosis, intense edema of the skin, are the prominent symptoms. The patients die from respiratory paralysis. There can be little doubt that the anaphylaxis in these patients is similar to that produced in animals, although we are entirely ignorant of the cause, and have, unfortunately, no way of recognizing its presence until after the serum injection.

An important condition often incident to the serum disease is that the general bacterial or antitoxic resistance of the body is lowered during the height of the anaphylactic stage. Several cases of diphtheria have been reported with relapses in this period. We have observed cases of streptococcic infections, erysipelas, dysentery and chorea, improve under the serum injections, but rapidly become worse during the height of the serum disease. It may not be wise, therefore, to use an antitoxic or bactericidal serum, if its curative effect cannot be obtained before eight or ten days.

What has the experimental work on anaphylaxis taught us, which might aid us in the practical use of serum therapy?

In the first place, the effect on small animals, guinea-pigs and rabbits, seems somewhat different from that in human beings. In the former no effect is produced by the primary injection; in man, about one-fourth of all cases show clinical symptoms of serum disease, between the fifth and twentieth day. In animals, no primary supersensitiveness has been found, a condition not infrequent in man. The anaphylaxis in the latter, induced by an injection of horse serum, is less marked, since death in the human being must be very rare, after a second injection. The results obtained in animals cannot be applied to man without clinical support, yet it must be admitted that the "Arrthus" phenomenon—the induction of anaphylaxis after the hypodermatic or intravenous injection of any heterologous proteid—might be applicable to human beings also. All efforts to purify, or rather remove the objectionable properties of, antidiphtheritic serum by precipitation have proved futile. Experience has demonstrated that the globulin antitoxins are almost as certain

to cause rashes and joint pains and supersensitiveness as the whole serum.

Theobald Smith was the first to ascertain that guinea-pigs, who, for the purpose of standardizing serum, received hypodermatically a mixture of diphtheria toxin and antitoxin serum, after ten to fourteen days, were extremely susceptible to injections of horse serum. This has been called the Theobald Smith phenomenon, and is probably similar to the Arrthus phenomenon. It seems certain, however, that the antitoxin-toxin mixture heightens the anaphylaxis. A practical deduction from this is that it may be dangerous to inject another dose of serum in a patient suffering from diphtheria, who has received an insufficient dose of the curative serum six or eight days previously. Its use after fourteen or twenty days in threatened cardiac paralysis, as has been suggested by some French writers, must be considered irrational, if not absolutely dangerous.

It was Rosenan and Anderson who first pointed out that a small dose of serum sensitizes more quickly than a large dose, but, as Otto has so clearly shown, with a large dose of the serum, anaphylaxis is merely delayed. Whereas, in the case of small doses, anaphylaxis occurs in one week, with large doses it may be delayed a month. Bolton's cases illustrate this principle. In three children, who had received a large dose (4,000 to 15,000 units), a month to six weeks previously, the most violent symptoms occurred on a second injection. We may conclude, then, that in the ordinary clinical case, when 3,000 to 5,000 units are given, anaphylaxis is at its height three to five weeks after the initial injection. To give another dose at this period is sure to produce a more or less violent reaction. This period corresponds very closely with the cases we observed in the Bethesda Foundlings' Home, in which the violent symptoms were produced six weeks after the primary injection by another dose of diphtheria antitoxin.

It is extremely unlikely, then, that the acme of the serum disease corresponds with that of the supersensitive stage. Only when small prophylactic doses of antidiphtheritic serum are given, may we expect the serum disease and anaphylaxis to correspond in point of time.

Immunization against the toxic body, or antianaphylaxis, turns out to be no immunity, but only a temporary inhibitory effect by the presence of the alien serum. Animal experiments go to show that while the second injection may cause severe toxic symptoms, if the animal recovers, subsequent injections are less violent in their effects.

In animals, serum given by the mouth sensitizes in more than half the cases. This probably also occurs in man. For, as we observed several years ago, giving antitoxin by the mouth does not entirely prevent serum rashes.

All efforts to rid the curative sera of the toxic substance which sensitizes, have proven futile. Meule's observation that fresh sera have a greater tendency to cause rashes than older sera, has been refuted experimentally by Rosenan.

So far, all theories offered to explain this condition have not met all the known facts. Certainly the phenomena are somewhat different from those connected with antibodies in bacterial immunity. The older theory that the symptoms are explicable on the ground that precipitins are formed, does not meet the views of the later critics. The effort to explain anaphylaxis by means of the theories of Ehrlich, also meets extreme difficulties.

The following practical rules may be offered in the light of our present knowledge:

Curative sera are not the harmless substances we originally supposed.

Immunizing injections of serum should not be employed when isolation will prevent the disease with a reasonable degree of certainty and the children can be watched.

Serum should not be used in asthmatics, or those suffering from Graves' disease or the lymphatic constitution, except in developed diphtheria.

The use of bactericidal sera of doubtful value should not be encouraged, without careful consideration of all the possible bad effects from anaphylaxis.

If a second dose of serum must be given during the few weeks following a primary injection, small repeated doses are preferable to a large single dose.

On the other hand, one large *initial* dose is probably less harmful and far more effective than several small doses given over several days.

ARTHRITIS DEFORMANS IN CHILDREN.

By I. A. Abt, M. D., of Chicago.

No more appropriate introduction for a short treatment of this subject can be made than to quote the words of Garrod (20th Century Practice of Medicine, Vol. II.). He says: "The time is not yet ripe for any adequate description of arthritis deformans as it occurs in children, for the whole subject of the chronic joint diseases of children constitutes a chapter in clinical medicine which still remains to be written."

While the number of reported cases is not great, nevertheless isolated cases from various quarters, are being noted in the journals and yearbooks. As early as 1874, Cornil and Beau reported two cases. About the same time, Louis Smith of New York reported a case in which he observed recovery from the disease. Moncorvo, and later Johannessen, published elaborate monographs and case reports on the subject. All authors are agreed that in children more frequently than in adults, the disease begins as a subacute process.

The disease seems to occur in every climate, but more particularly in those regions where moisture and extreme cold are prevalent. These conditions favor not only the occurrence of the disease, but apparently also, the relapses. In reading the reports of the cases, one is struck by the fact that most of the children who fall ill with this disease belong to the poorest classes and live under the most unfavorable hygienic conditions.

G. F. Still, who has collected and reported a large number of cases, classifies arthritis deformans, or as he prefers to designate it, rheumatoid arthritis, into three varieties. The first variety in children differs in its clinical symptoms and its morbd anatomy from the same disease which is described in adults. This variety consists of a chronic, progressive enlargement of the joints, associated with enlargements of the lymphatic glands and spleen. The causes of this condition are unknown. Heredity seems to play no part in its causation; as has already been remarked, bad feeding and privations of various kinds were the most prominent factors. The disease usually begins before the second dentition, and it has been reported more frequently in girls than in boys. The onset of this variety is usually insidious, with stiffness of one or more joints. Occasionally the onset is sudden, marked by high fever, which may last for a variable time. Chills or rigors have been observed. The character of the joint enlargement is of importance. The bony irregularity of arthritis deformans is wanting, even when the disease is considerably advanced. In all of the cases which were observed by Still, the joint enlargement suggested rather a thickening of the tissues around

the joints than changes in the bony or cartilaginous tissues. Bony grating is, as a rule, not observed, and effusion is not a marked feature. Tenderness is only slightly present. The joints that are first involved are the knees, wrists, and cervical spines. The fingers, and later on the toes, become affected. The disease is probably never limited to one joint, and is almost always symmetrical. There is no tendency to suppuration nor to bony ankylosis. There is usually muscular atrophy, with a tendency for the muscles to contract. The enlargement of the lymphatics in this variety of the disease, is a constant symptom. The glands most commonly affected are those which lie in proximity to the joints which are involved. The glands are hard and do not tend to break down. The spleen is always palpable, and its size is proportionate to the joint involvement and the number of glands involved. It is agreed among all those who have seen and reported these cases that endocardial inflammation does not occur, though pleuritis and pericarditis of a low grade, do occur. The progress of the disease is slow and in time tends to remain stationary, leaving the individual in a helpless condition, owing to the severity of the joint involvement. At times exophthalmus has been noted in connection with these cases, with a rapid pulse. A case of this variety of arthritis deformans has been reported by Lempke *(Chicago Medical Recorder,* September, 1902). It was my privilege to see this case, through the kindness of the reporter.

The little fellow, who was eleven years old, suffered mostly from involvement of the wrists and hands. The elbows and shoulders were involved, though the motion was fairly well preserved. The knee joints were much enlarged and slightly distended with fluid. The peripheral glands were nearly all enlarged, some to a very marked degree.

Herter *(New York Medical Journal,* April, 1898), considers that our knowledge of the etiology of this disease is still very limited. He believes that unquestionably certain important similarities exist between the lesions of arthritis deformans and those associated with the affections of the posterior nerve roots. The fact that there are muscular atrophies, that the skin is occasionally glossy, that the muscles are rigid in cases of arthritis deformans, seem to point, according to this observer, to the nervous origin.

But we are still much in the dark regarding the influence of lesions in the posterior ganglia or the posterior columns of the cord upon changes in the bones or joints. In some cases, the disease has appeared to follow closely upon shock.

Herter regards the condition as one in which there are marked nutritive changes acting in connection with some peculiar constitutional condition. He has found that the total acidity of the urine is increased, and that excessive putrefactive changes are present in the intestines of these individuals.

The second form of rheumatoid arthritis, or arthritis deformans, as it occurs in adults, is not frequent in children. Charcot and Weil have

described this form; Koplik described an interesting case; Manges has described a case; Osler, four cases, and Henoch, five cases. This form of arthritis deformans, or rheumatoid arthritis, as it is spoken of by the English writers, generally begins after the commencement of the second dentition. Its causation in children is as obscure as it is in adults; poverty and insanitary conditions were strikingly absent in some of the cases. The joint affection is multiple in contradistinction to the monoarticular arthritis of old age. The trouble is not confined to the smaller joints; in some the larger joints are affected first. The occurrence of Heberden's nodes is very rare in children. It has been observed by various students of this disease that the great toe of each foot becomes increased in length. Johannessen called attention to this, as did also Diamantberger and others.

Referring briefly to the course of this disease, most of the cases have been said to occur after exposure to wet and cold. The involvement of the joints becomes progressively worse; in a large number of the cases, ankylosis develops, and complete disability follows after a period of months. Pain is a very marked symptom and frequently interferes with the sleep. The joints of the upper as well as of the lower extremity, become involved, and after repeated attacks, ankylosis and limitation of motion results. The synnovial membranes and the cartilage of the joints disappear. The ends of the bones assume ivory-like hardness and present osteopythic growths at their margins. Atrophy of the muscles follows closely upon the joint involvement. Koplik, referring to a case which he has described, says that when the disease has fully developed, the condition is pitiable. In his case, almost every joint in the body, including those of the cervical vertebrae, was involved. The tempero-maxillary articulations, shoulder, elbow, small finger joints, hip, knees, ankles, and toes were all affected. The patient slept in a semi-upright position, and had to be carried from place to place.

This form is distinguished from the first variety already referred to, by the absence of enlargements of the glands and spleen, by the presence of bony thickening and lipping about the joints, and in some cases by the presence of bony grating.

In speaking of the first variety of arthritis deformans, the theory of its nervous origin was alluded to. Nothing more is known concerning the etiology of the second variety. Two hypotheses as to its causation are considered. First, that the disease is caused by a lesion in the central nervous system which causes irregularity in bone growth and muscular atrophy. This theory is advanced by Charcot and Weil. The second is the infectious theory, though this is invoked to explain more particularly the cases of the first variety. The enlarged spleen, with hypertrophied glands and the daily variation of temperature, give some credence to this view.

The treatment which is advised in these cases is that the children should be placed upon iodide and, when possible, removed to a warmer climate. In any event, the conditions of hygiene should be improved.

The case report which follows, belongs to the second variety. The patient is a male child, 10 years of age, who came under observation in my service at the county hospital. There is no history of family or hereditary disease. He had whooping cough when a baby, and parents say that for some time he has been extremely irritable. One year ago, he was struck in the abdomen by a falling ladder; he thinks that abdominal pains, from which he suffers, are due to this accident. The patient's habits are good, save occasionally drinks a small quantity of beer.

The history of the present disease, as told by the father, is the following: About two years ago the father, who is an expressman, took the little fellow for a ride in an open wagon, while he was making one of his trips. The journey lasted longer than the father had anticipated, and they did not return home until late in the night. Before their return, the two were overtaken by a severe rain storm. The little fellow was drenched and remained exposed to the storm for two hours.

Two weeks subsequent to this drenching, he began to complain of pains in the abdomen, and at about the same time was seized with pains in the joints. These pains began first in the knees; later his wrists were involved in the same way. He had fever. The joints were painful, red and swollen; he slept poorly, was unable to bend his knees. His appetite was poor. He maintains that he was able to walk about some during the time that he was acutely ill.

The acute condition already referred to, lasted about six weeks; the enlargement of the joints increased. He is able, at present, to walk about, though there is stiffness in the knees, ankles and wrists. He complains occasionally of diarrhea and frequent disturbances of digestion.

Examination: The examination shows a poorly nourished, anemic boy. He is of a decidedly nervous temperament. He lies quietly in bed and is able to walk about, a slight stiffness at the knees causes him to assume a somewhat shuffling gait.

Respiration is normal. Pulse regular and of moderate tension. The skin is clear, no eruptions are observed.

Head: The head is quadrilateral, bosses over parietal and frontal eminences indicate a previous rickets. Face is pale, eyes and ears negative. There is a slight ulceration to be observed in the left angle of the mouth. Teeth: Lower canines and bicuspids have fallen out. The lower incisors are slightly notched. The mucous membrane of pharynx is hyperaemic, the tonsils are enlarged. The neck is negative. Chest: Lungs, negative. Heart: Apex beat is in the fourth interspace, about 1 c.c. inside of the nipple line; upper border is at the third rib, the right border at the right edge of the sternum. The second pulmonary sound is slightly accentuated. The aortic second sound is weak. The lower edge of the liver is palpable on deep inspiration.

Spleen is not palpable.

Extremities: Wrists, swollen. No redness nor tenderness. Extension, flexion, and lateral motion normal. Cannot close hands com-

pletely. Enlargement at wrist seems to be partly due to increase in size of bone, and perhaps a slight effusion. Second phalangeal joints of index and middle fingers of left hand slightly enlarged.

Knee swollen, 26 c.c. in circumference; considerable effusion into joints. Patella clicks present. Condyles of lower edge of femur are greatly enlarged, especially internal condyles. Upper end of tibia also enlarged. Flexion at knee is good, extension not complete. Ankles slightly swollen. Some limitation of motion.

Spine: Mobility normal. Hip: Normal. Slight creaking over affected joints. Glands: Inguinal and axillary glands are palpable.

DIFFERENTIAL DIAGNOSIS BETWEEN COMPLETE AND INCOMPLETE URETERO-VAGINAL FISTULA.

By Ernst Jonas, M. D., of St. Louis.

There is little doubt that, during the last decade, there has been a marked increase in the number of ureter-fistulæ after operations. The majority of these fistulæ have occurred after operations for cancer of the uterus. The reason for this is to be found in the effort to obtain better permanent results from operations for cancer of the uterus, after the investigations of Wertheim, Bumm and others had shown that most operations for cancer of the neck of the uterus until that time were more or less of a farce. It was justly insisted that, in all cases of cancer of the uterus, the infected parametrium and lymph glands must be removed with the cancer, just as the axillary fat and lymph glands are excised in all cases of cancer of the breast.

This new method permitted radical operation on cases which had heretofore been considered inoperable. It demanded removal of the infected parametrium and lymph glands in all cases, while until then, carcinomatous infiltration of the parametrium and palpable lymph glands were considered beyond aid. It is only natural that in the attempt to dissect the ureter out of the infiltrated parametrium, the nutrition of the ureter should suffer and a ureter-fistula perhaps follow. The lesson had to be learned that, in order to avoid these very disagreeable fistulæ, it is absolutely essential that the ureter be handled with utmost care during the whole operation. No pulling, no pressing with instruments is permissible. The best way to avoid injuring the ureter is to keep it in view at all stages of the operation. It is one thing, however, to keep the ureter plainly in sight, and another to lift it out of its bed for greater distances. If this lifting is not avoided, then necrosis of the ureter and a ureterovaginal fistula results, or even urinary infiltration and peritonitis. It is hardly necessary to mention that infections or drains introduced extra-peritoneally into the neighborhood of the ureter are also favorable to the development of a ureterovaginal fistula.

Less frequently ureterovaginal fistulæ follow operations for fibroids of the uterus. There is undoubtedly a justified tendency among surgeons to prefer panhysterectomy for fibroids of the uterus to supravaginal amputation. (Conservatism in large fibroid operations is not often indicated, because of the usual multiplicity of the fibroids; it is almost inevitable that small nuclei remain, which frequently grow then with rather increased activity. However, the wish of the patient not to be deprived of the menstrual habitus and of the possibility of bearing children, might induce the operator to save the uterus. But pregnancy after removal of fibroids of the size of a child's head, or larger, is rare,

and the danger of pregnancy and confinement in a uterus badly scarred in several places is to be considered.)

The development of a ureterovaginal fistula after panhysterectomy for fibroid of the uterus is, as before stated, infrequent. There are cases, however, in which such a condition might occur without any apparent reason. The case in which I made my observations of importance for the differential diagnosis of complete and incomplete ureterovaginal fistula developed the fistula after panhysterectomy performed for fibroid of the uterus.

Mrs. T————, extremely exhausted and highly anemic, presented herself with a firm round tumor, reaching up to the middle between the umbilicus and the xiphoid process, in size about equal to the uterus in the eighth month of pregnancy. The tumor could be felt dipping down into the pelvis, particularly so on the left side. The body of the uterus could not be outlined, the neck having entirely disappeared. There was a very low hemoglobin percentage (40 per cent.), otherwise the examination of the organs proved satisfactory.

I performed panhysterectomy with removal of tubes and ovaries in the typical way, keeping very close to the tumor and uterus. In this way, as is well known, injury to the bladder, ureter and rectum is surely and simply avoided. In this particular, myoma operations differ from carcinoma operations, in which, on the contrary, we must keep far away from the uterus and must sacrifice a good part of the vagina. The operation was simple, and even on the left side of the pelvis, where the tumor dipped far down between rectum and vagina, it was not necessary to raise the ureter from its bed and to injure the ureterovaginal vascular network, the result of which is a frequent cause for necrosis of the ureter. After complete stoppage of the hemorrhage, I introduced a small gauze drain into the vagina, and sewed the peritoneum of the bladder to the peritoneum of the Douglas pouch, and then sewed the rest of the peritoneum in the usual linear manner. As a rule, I first sew the peritoneum of the bladder to the anterior vaginal wall, and the peritoneum of the Douglas pouch to the posterior wall of the vagina, and then continue as above. In this case, on account of the highly anemic condition of the patient before the operation, I did not wish to prolong the work even for the very short time required for this additional sewing. I removed the drain on the third day.

Everything went favorably until the tenth day after the operation, when the nurse reported that the patient, who had been able to pass her urine normally, was continually wet, though from time to time urine was passed in the natural way. The quantity of the normally passed urine, which had averaged fifty ounces in twenty-four hours, dropped to twenty-five to thirty ounces. Upon vaginal examination, I found a constant dripping of urine from the vagina. I could not, however, discover the location of a fistula. I wish to state here that the discovery of a fistula in the left or right fornix is by no means a proof that the ureter

of the same side is injured, since the injured ureter might be pulled entirely to the opposite side by parametrian scar formation. The complete filling of the bladder with permanganate solution showed that there was no incontinence of the bladder. There was no doubt, therefore, that a ureterovaginal fistula existed. In order to find the ureteral orifices in the bladder more easily, I injected 4 ccm. of a 4 per cent. solution of indigocarmine (Brückner, Lampe & Co.) into the gluteal region, according to the advice of Völker and Joseph. Cystoscopic examination about twenty minutes after this injection revealed the right ureteral opening very plainly by a greenish-bluish discharge. The left ureteral opening could not at first be discovered, but then I recognized a movement of the ureter similar to the contraction of the ureter in discharging urine. But no fluid came from the opening! This symptom, fittingly called by Viertel "Leergehen" of the ureter, was very evident. Its presence, depending upon contraction of the ureter, proved that the peristaltic movement of the ureter continued to the bladder, and that, therefore, there was no complete interruption of the continuity of the ureter, but only an opening in the wall.

This phenomenon, in cases of evident ureterovaginal fistula after operation, decides with which of the two conditions we have to deal. The differential diagnosis is of importance, since we know that lateral defects of the ureter frequently, even usually, heal of their own accord in about four to six weeks. (The wound of the ureter, after removal of a stone, usually heals spontaneously.) Complete severing of the ureter, as is produced by section or ligation, never heals spontaneously. In the case under consideration there was no marked decrease of urine from the vagina for about two weeks after the development of the fistula, that is, three and a half weeks from the date of the operation. I explained to the patient the exact nature of her condition, and told her that I trusted the fistula would be a temporary one and would probably close in from two to four weeks. The patient, feeling otherwise well, decided to return home, and two weeks later reported that the quantity of urine coming from the vagina was decidedly less, the amount passed from the bladder increasing. One week later she wrote that no urine escaped from the vagina and that she passed between fifty and sixty ounces of urine.

The differential diagnosis between a complete and incomplete ureterovaginal fistula is, therefore, by no means only of academic value. It is of great practical import, since it decides for or against operation. In incomplete ureterovaginal fistula it should warn against premature operative interference. Except in such cases in which there is a certainty of complete interruption of the continuity and in which, therefore, spontaneous healing is impossible—only after nature has had her chance of at least six weeks, should we interfere and perform a secondary operation, reimplantation of the ureter into the bladder, ureteral anastomosis, or even nephrectomy.

I examined the patient again, one year after the operation, and con-

vinced myself that she was absolutely well. Both ureters discharged urine into the bladder; the ureteral catheter entered the left ureter without difficulty. The condition of the pelvis is perfect, not a trace of an exudate being noticeable. I am not in a position to state the exact cause for this ureterovaginal fistula. It did not appear until the tenth day. At the operation, as stated before, I carefully avoided disturbing the ureter in its nourishment. However, a slight mechanical insult to the ureter cannot be excluded. This, in a patient so extremely anemic, may have caused the fistula through secondary necrosis.

To summarize:

1. Leergehen (empty contraction) of the ureter is an important point for differential diagnosis between a lateral opening and complete interruption of the continuity of the ureter in ureterovaginal fistula.

2. Operative interference in ureterovaginal fistula, where there is only a lateral opening in the ureteral wall, is not advisable until there has been a chance for spontaneous healing.

PUERPERAL FEVER.*

By Dr. Ernst Runge, of Berlin.

Febrile processes occurring during the puerperal state, and arising as a result of that condition, may be divided into two groups: wound intoxication and wound infection.

Wound intoxication, *i. e.,* a sapremic fever, is caused by various bacteria, saprophytes, the large majority of which are strict anaërobes and live only on dead tissue. Toxines produced by them are transported into the general system by way of the blood and lymph current and lead to a rise of temperature; the bacteria themselves remain localized. Remnants of placental tissue, fragments of the ovisac and blood clots, rarely normal lochial secretion, furnish the suitable medium for their growth. If the lochial discharge cannot escape and is retained in the uterus, symptoms will develop which clinically and bacteriologically are identical with those of wound intoxication. (Stauungsfieber). In these cases the fever, as a rule, appears late in the puerperium. The lochia have a bad odor and very often become sanguinous.

If the condition is treated properly the prognosis almost always is favorable. The fragments of tissue remaining in the uterus must be removed carefully but thoroughly, with the finger, if possible, the uterine cavity flushed with 1 per cent. solution of lysol, or 50 per cent. alcohol, or 3 per cent. solution of aluminium acetate or hydrogen peroxide. In cases of retention of the lochia or of membranes, the intrauterine douche alone often proves sufficient. On account of the danger of intoxication, bichloride solutions must be avoided for this purpose. The further treatment consists in the application of an icebag and the administrations of ergot. In cases of simple retention of the lochial secretion, or if the putrid process is limited to the surface of the endometrium, the temperature will fall promptly. If the process has invaded the endometrium to some depth, the return of the temperature to normal may take several days. A new rise of temperature would call for another intrauterine douche.

The prognosis *quoad vitam* is also favorable, if the fever is due to a gonorrheal infection, usually manifesting itself at about the eighth day. Exudates may form, the uterine appendages may become affected, etc., but fatal general peritonitis must not be feared. Proper treatment in these cases will consist in absolute rest in bed, ice bag on abdomen and administration of ergot. Enforced absolute rest will tend, more than anything else, to reduce the time required for complete recovery.

The other group of febrile processes during the puerperium, wound infection, are caused by streptococci.

*Translated from Berliner klinische Wochenschrift, 16. Maerz, 1908.

The identification of the responsible bacterium in the individual case is simple. With the help of two retractors the cervix is brought into plain view. A thin sterile glass tube is pushed into the uterus and some of the discharge aspirated into the tube. The differential diagnosis often can be made quickly in the stained smear. Since it may be important in certain instances to determine whether the infection has transgressed the boundaries of the uterus, Fromme[1] suggests the bacteriologic examination of the blood. If the blood is found free of bacteria, it can be assumed that the process still is limited to the interior of the uterus and the prognosis in general is good. The presence of streptococci in the blood proves the systemic infection and obviously makes the prognosis decidedly less favorable.

Thus it can be deduced that the infection may remain limited to the port of ingress, or that the infection may invade the system, causing sepsis, pyemia, etc.

In cases of local infection we deal, as a rule, with injuries to the perineum, vagina or cervix. But there also exists a streptococcus-endometritis. The wound surface is covered with a whitish-gray membrane; the temperature is above normal; at times the patient has chills. The diagnosis is easily made after a careful inspection of vagina and cervix. In order to establish the diagnosis of streptococcus-endometritis a bacteriologic examination of the uterine discharge must be added. In all these cases the prognosis is rather serious since the possibility of a general infection never can be excluded. Nevertheless proper treatment in the majority of cases will result in recovery. The removal of the grayish cover from the wounds with a curette is always contraindicated. Dusting powders and tincture of iodine must be freely applied. In cases of endometritis, copious (3 to 4 quarts) antiseptic intrauterine douches are used with advantage. The icebag is kept on abdomen and ergot prescribed.

Decidedly more serious becomes the situation as soon as the streptococci invade the general system. Two modes of general infection must be differentiated: (1) by way of the bloodvessels, causing thrombophlebitis, pyemia and septicemia; and (2) by way of the lymphatic system, resulting in metritis dissecans, puerperal parametritis and perimetritis or peritonitis (sepsis).

In speaking of the first group it must be stated that the avenue for the spreading of the infection is opened through the veins and never through arteries. The bacteria enter the veins, as a rule, at the side of the former insertion of the placenta. First a phlebitis is set up in the pelvic veins, followed by a thrombophlebitis. If suppuration does not occur, the disease may take a favorable course. With a gradual increase in temperature and pulse rate pain and edema appear in the region of the thigh. There is tenderness to pressure, especially in the fossa ovalis, and gradually the typical picture of the *phlegmasia alba dolens* develops. In some instances, also, the external genitalia are edematous. The

treatment consists in complete rest, with the affected leg in a slightly elevated position. The extremity is covered with a Priessnitz compress and the systemic infection is treated in the manner, considered later in detail.

If, on the other hand, the thrombi putrify, the clinical picture is that of a pyemia. After a slight rise of temperature at the end of the first or during the second week, chills occur, the temperature rapidly rising up to and even over 40° C. With profuse perspiration, a few hours later, the temperature falls, but the pulse rate remains comparatively high. There are more chills in the next few days, each indicating a new invasion of bacteria from the putrifying thrombi. Between chills the patient feels comparatively well. In the meantime abscesses may develop in the lungs, kidneys, muscles, skin or joints. Robust persons may remain for several weeks in a satisfactory general condition. Gradually, however, they will begin to fail, and by far the larger number of puerperæ will succumb to the infection. The only possible help lies in an attempt to combat the systemic infection.

Very similar is the clinical picture of a septicemia, only there are no chills. The temperature ranges between 39° and 40° C. Incessantly new streptococci flood into the system from the infected endometrium. The sensorium becomes clouded and usually death ensues a week or two later.

In cases in which the infection progresses by way of the lymph channels, the process still may remain limited to the uterus itself. Small abscesses form, which may lead to the elimination of small portion of the muscular wall, metritis dissecans. Antiseptic douches are employed besides a general therapy and eventually the extirpation of the uterus may become necessary.

In other cases the infection spreads into the surrounding connective tissue, causing puerperal parametritis and perimetritis, and finally a pelvic phlegmon. To both sides of the uterus a soft, doughy, very tender, resistance is palpable which soon transforms into a hard exudate. The exudate can be resorbed, in which event the temperature sinks to normal, or softens through the formation of pus. The pus may perforate into bladder, vagina, rectum or through the anterior abdominal wall, again accompanied by a fall in the temperature. The therapy consists in general treatment of the systemic infection, application of the icebag and antiseptic douches. Whenever an abscess forms, it should be opened by an incision either through vagina or abdominal wall.

The most unfavorable result of a lymphogenic streptococcus infection is a puerperal septic peritonitis, which almost always ends fatally. As a rule this disease begins between the second and fourth day post partum. With a chill, temperature and pulse rate suddenly rise, the tongue feels dry, the abdomen becomes meteoristic. With further rise of the temperature the meteorism increases, the abdomen is very tender to pressure, respiration becomes superficial and the patient begins to vomit. A few days later the sensorium is impaired, the radial pulse is

thin and extremely fast and soon exitus occurs. All local measures will prove useless, only in rare instances a therapy against the systemic infection may finally save the patient's life.

It is obvious that in practice the strict classification of every case into one of the groups described above will be impossible. Forms which represent the transition from one of these groups into another are common, infection and intoxication may manifest themselves simultaneously, etc. But as a rule, careful observation will permit definite conclusions concerning the diagnosis, prognosis and therapy in the individual case.

Finally we shall speak of the general treatment of the systemic infection. It never is justifiable to fight the fever with antipyretics, since fever must be regarded as one factor of importance in the cure. If in cases of heart failure a reduction of the temperature would seem desirable, cold sponging (for ten minutes) will prove more advantageous. Narcotics, especially morphine (subcutaneously or in suppositories) can be used to relieve pain. A strengthening diet, to which alcohol is added, must be prescribed. In order to stimulate renal function and to propagate the elimination of toxic material the patient is given large quantities of water. For the same purpose rectal or hypodermic injection of saline solution can be employed.

In more recent years two new methods of combating the general infection in puerperal fever have been successfully exploited, *i. e.*, the administration of antitoxic sera, and operations undertaken in an attempt to eliminate the primary source of infection.

Antistreptococcus sera have been prepared by Marmorek, Aronson, Menzer, Paltauf and others. Opinions concerning the results obtained with these sera vary widely. Bumm[2] believes that none of them shows a distinct clinical effect in a general infection with the streptococcus. They may prove very efficient, however, whenever the infection is still limited to the endometrium. The sooner the serum is injected the better is the prospect of a satisfactory effect. The serum of Aronson has been pronounced valueless by Zangenmeister[3] but has proved very valuable in the hands of Eggel.[4] Satisfactory results have been obtained by Burckhard[5] and Falkner[6] with the serum of Paltauf, by Schultze,[7] Peham,[8] Bewersdorf,[9] Martin[10] and Menzer[11] with the serum prepared by the latter, by Pilzer and Eberson[12] with the Marmorek serum, by Knyvett Gordon,[13] Murtry[14] and Raw[15] with the antistreptococcic serum of the Wellcome Laboratory, and finally by Fromme[1] with the serum of the Hoechst Farbwerke. It can be easily seen that a final judgment concerning antistreptococcic sera can not as yet be passed, but it seems that serious types of a general infection are not, as a rule, benefited, while satisfactory results are occasionally seen in cases of localized infection.

Of late it has been suggested, *e. g.* by Polano,[16] to actively immunize parturient women by means of injection of dead cultures of pathogenic streptococci whenever a major obstetric operation is contemplated. Zangemeister[17] endeavors to obtain a passive immunization for the same

purpose by the injection of blood serum taken from patients recovering from a streptococcus infection. Also Bumm[2] is in favor of the prophylactic use of antistreptococcus serum.

In some cases of streptococcus infection, especially in pyemic processes, an effect can be expected from silver salts, principally from collargol of Credé. It can be employed in form of a salve as inunction, or in solution per rectum, also in intravenous injection (5 ccm. of a 5 per cent. solution, once a day, for two or three days). Intravenous injections are best made into the cubital vein, and they alone seem to yield entirely satisfactory results. The manner in which the introduced silver exerts its deleterious effect upon the streptococci has not yet been explained. Some writers think that after the resorption of the collargol into the blood has been effected, certain silver salts are deposited in the areas of inflammation and there destroy the bacteria. Wassmuth,[18] like Schade, assumes that it is the electro-catalytic action of colloid metals which causes a rapid oxidation of the tissues. This process leads to a destruction of ptomains circulating in the blood and thus to a speedy improvement of the general condition of the patient. Good results with this method have been recorded by Bonnaire,[19] Opitz,[20] Rosthorn,[21] Wassmuth,[18] Weissmann,[22] Osterloh,[23] Buberl[24] and Hocheisen,[25] Fromme[26] is not absolutely opposed to the intravenous administration of collargol but considers the ligation of veins, to be considered presently, preferable.

More promising seems a newer idea. It has been observed that a marked hyperleucocytosis can be produced, and thus the resistance of the body, especially of the peritoneum, against streptococci noticeably increased by the introduction of nucleo-proteid substances. Hannes[27] recommends the prophylactic injection of 50 cm. of a 2 per cent. solution of nucleic acid preceding all major operations, and proves the advantages of this method by results obtained in a large series of operations for carcinoma. Pollak[28] also favors this idea. For the same purpose Raymond, Petit, Barlerin and Demelin[29] produce a hyperleucocytosis by means of injections of horse serum. Obviously this question is still far from being finally settled and only further observations will establish the possible value of this method.

Essentially different are the attempts of other authors to combat the streptococcus infection by an operation, its purpose being the elimination of the primary source of infection. Thus some authors, among them W. A. Freund,[30] advised the extirpation of the infected uterus. Favorable results obtained with this method have been reported by Kunith,[31] Lemoine,[32] Vertes,[33] Wagner,[34] Sourdille[35] and others. The main difficulty of this mode of procedure lies in the exact determination of the moment when operation becomes permissible and the realization of the period when this operation has become contraindicated. Latzko[36] reports unsatisfactory results, and Bumm[37] objects to hysterectomy in cases of chronic pyemia, because a comparatively healthy organ is re-

moved, a large wound cavity produced and the duration of operation lengthened, while the same effect could be obtained by simply ligating the veins. In cases of acute pyemia, on the other hand, the operation is likely to result fatally because the blood and lymphvessels, opened during the operation, as a rule, will contain virulent germs.

More promising seems another of the newer ideas, namely to prevent the infected thrombi in the veins from being carried away. In this manner the continual dissemination of a great number of virulent bacteria into the circulating blood is obviated. Trendelenburg[38] was the first to suggest and to execute such an operation, which later was further developed and propagated especially by Bumm.[37] We possess reports of such operations from Sippel, Lenhartz,[39] Opitz,[40] Friedemann,[41] Breff-Sheffield,[42] Haeckel,[43] Seitz,[44] Cuff,[45] Foix,[46] Fromme,[26] Veit[47] and others.

In Bumm's opinion the cases of chronic pyemia are better adapted than those of acute pyemia. Fromme, however, obtained a perfect result in a case of acute pyemia. Extremely difficult in the individual case is the decision whether this operation is indicated or not, and this difficulty explains the records of failures. At the present time exact rules have not as yet been evolved as to the exact moment when ligation is indicated. We do not know how far the infection has progressed in the veins, and whether the thrombosis possibly has already reached the vena cava. Bumm, therefore, demands that this operation be limited to cases in which it can be positively established, if necessary under anesthesia, that the infection originates in the pelvic veins. On one or both sides of the uterus a hard mass can be palpated, the thrombosed veins being surrounded by infiltrated tissue. Bardeleben[48] is fully in accord with Bumm, and in another paper describes the histologic findings made in such thrombosed veins in cases of pyemia.[49]

The operation itself may be briefly described as follows: An extraperitoneal incision is made in the lumbar region, or a transperitoneal in the median line. The broad ligament is split open, the thrombosed veins dissected out, ligated in two places and excised. Seitz[44] and Lendon,[50] tied, with perfect success, only the spermatic veins, Bumm,[37] in the cases already quoted, both hypogastric veins. He suggests the ligation of both hypogastrics, but to excise only a diseased spermatic vein. Of late Friedemann, Bardeleben,[48] Fromme,[51] Kroemer[52] and Veit,[47] have recommended the ligation of all four veins in every case.

In this connection a very careful anatomic study of all pelvic veins by Kownatzky[53] must be mentioned.

The results of this new operation are not uniform. Bumm saved three out of five patients, Lenhartz one out of eight, Haeckel one of two. The results will, however, become better in the near future when we shall have learned to recognize the cases specially fit for this operation and the proper time for its execution. In all patients who have recovered, the temperature promptly began to fall one or two days after the opera-

tion; the chills disappeared, or occasionally there was one or another within the next day or two, but then convalescence progressed speedily. In order to avoid the dangers of a laparotomy Latzko[36] has suggested to proceed through the vagina by opening the lateral fornix, dissecting out the diseased veins, ligating and excising them. The final judgment has not as yet been passed concerning these various operative methods of combating a streptococcus infection in the puerperal state.

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BICHAT:

HIS LIFE, RESEARCHES AND CHARACTER.

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Marie François Xavier Bichat, better known as Bichat, was born November 14th, 1771, in Thoirette, France. His father and mother were first cousins. Of his mother, little has been written, but enough to know that she was a noble woman and that she profoundly influenced her boy's career. His father was a physician of prominence in Poncin, and a member of the faculty of the University of Montpellier. In easy circumstances, he practiced medicine for the most part gratuitously. One of Bichat's uncles was a rich merchant of Lyons. Another was a Jesuit father, who was the Superior of the Seminary of Saint Yrénée and one of the teachers of Louis XVI.

His father early laid a most excellent foundation for the later career of his son by helping him at the age of eight, to comprehend the anatomy of the cat. Often he went with his father in making calls through the mountains of the Jura, where he gathered and came to know many rare plants. His academic training was in his uncle's school at Lyons, and in the seminary at Nantua. In these schools he not only became fond of physics and natural history, but also achieved distinction in philosophy, and received a number of prizes in rhetoric.

In 1791, at the age of twenty, he began the study of anatomy in the Hôtel Dieu of Lyons, under the renowned Marc Antoine Petit, who soon recognized his ability and made him his assistant. Although Bichat studied hard, the times were not conductive to persistant work and careful thinking. The dark clouds of the revolution were gathering. In 1793, Lyons was besieged. At this time young Bichat was in the military service. After the siege, he and his brother returned to the home of their parents, who were the objects of scorn by the Sans-Culottes. The boys, in order to relieve their parents from further humiliation, were obliged to enrole, one in an ambulance corps, the other in a batallion of volunteers. At the moment of organization, the brothers were not present, and were sought for with much clamor, even their parents were seriously menaced. When found, they were so exasperated by one of the sergeants that Xavier made a straight for him and struck him. The sergeant attempted to kill Xavier, but he fought like a tiger, and was victorious. The commander, a friend of the family, saw the danger and brought about a reconciliation. Bichat realized the seriousness of the affair, fled from Lyons to Paris, where he resumed his medical work under the great Desault, then the most famous surgeon in France, with the intention of returning to the military service. But when the

9th of Thermidor, 1794, saw the fall of that tyrant, who had sought to annihilate free thought, speech and action. When the torn and breathless people came from hiding places and absent ones returned to their homes, the dawning of a brighter day came, and Bichat found his desire waning to become a military surgeon.

About this time an incident occurred which was of momentous importance to Bichat. Buisson tells us that it was the custom of Desault

MARIE FRANÇOIS XAVIER BICHAT.

to select a certain pupil to give a resumé of the work of the preceding day. One day Desault had delivered a long discourse on the fractures of the clavicle and the methods of bandaging. The student who was to give the resumé was absent, and Bichat was asked to give the demonstration. The purity of his diction, the exactness of his method and the precision of his work, caused a remarkable sensation. He was listened

to with silence, and at the close received great applause from his fellow students. When Manoury, the surgeon in charge, told Desault, the latter sent for Bichat, took him to his home, and thenceforth treated him as his son.

For nearly two years he accompanied his master over France in consultation work, and during this time, with Corvisart and others, he founded the Société Médicale d'Émulation, before which he read a number of brief papers. In 1795, Desault died leaving a widow and young son, both of whom would have been destitute but for the support which Bichat gladly gave them. Undismayed by the loss of his master, he doubled his energy, and notwithstanding his large practice, he finished and published the fourth volume of Desault's Journal of Surgery. Moreover, he never failed to spend a certain part of each day in physiological experimentation, dissection, and operative work on the cadaver.

Desault's death caused Bichat to lose interest in surgery, and he thenceforth gave more of his time to the study of anatomy. In the winter of 1797, he gave his first course in anatomy and operative surgery in rooms which he secured at 18 rue des Carmes. In his lectures, he added remarks on the physiology of the various structures and gave illustrative experiments. He always emphasized the fact that physiology is the inseparable companion of anatomy. The structure of an organ is only of interest when coupled with its function. During this time he wrote several articles on surgical methods; a memoir on the synovial membranes; one on membranes and their general relation to organization; and another on the relation existing between the organs in symmetrical and irregular forms. The evenings were largely devoted to editing the surgical works of Desault, which had been left in scattered fragments. The following year, in addition to his courses in anatomy and surgery, he added a third in physiology. In the place of lecturing on the probable functions of organs, as was commonly done, he turned to animal experimentation, following the example of Spallanzani of Italy. He often lectured three times in one day, and directed the practical work of nearly eighty students. In addition to this work, he carried on a general practice. The time left he devoted to writing. In these ceaseless labors, he was interrupted by a serious attack of haemoptysis, from which, however, he shortly recovered.

In 1798, Pinel, the most celebrated physician of the day, published a great work entitled, "Nosographie Philosophique." The ideas embodied in this work opened the way for a new system of medicine. Pinel taught that disease must be caused by a structural change in the organs or tissues. Accordingly, these organs or tissues should be studied first, from the standpoint of structure, then of function. Then the exterior signs of the disease should be studied in relation to altered structure. This being done, diseases should be classified from the similarity or dissimilarity of the tissues affected.

Bichat was deeply impressed by this work and became particularly interested in the distinction which Pinel had made between the mucous

and serous membranes. He at once began to work on the membranes, and two years later published his "Treatise on Membranes in General and Diverse Membranes in Particular." In this work, Bichat divided the internal membranes into the simple, which comprise the mucous, serous and fibrous, and the composite, including the sero-mucous, the fibro-mucous, and the fibro-serous. This work was a model of precision, originality and analytical method. It won for Bichat all the titles and privileges of the École dé Médicine. During the same year he wrote two minor papers, one on the arachnoid and the other on synovial membranes. The latter was severely criticised by Richerand.

In the closing year of the 18th century, his "Physiological Researches on Life and Death," appeared. Its first line runs as follows: "Life is the ensemble of functions which resist death." Bichat, in general, agreed with Stahl that the mechanical and chemical forces are in opposition to the vital forces. Yet, he did not agree with Stahl that the vital forces act with intelligence for the conservation of the organization. It should be remembered that Barthez and Bordeu, two of the most celebrated philosophers of the day, believed that they had shown that there is in man a vital force, operating independent of the laws of chemistry and physics. Bichat points out that physical properties are inherent in matter and are never lost. While the essence of the vital properties is to give life to matter for a certain time, which may be called the life cycle. Bichat cites the fable of Prometheus, who, having formed several statues of men, stole fire from the sky to animate them. This fire would be the emblem of the vital force, while it burns, life is sustained; when it goes out death ensues. "Matter has possessed physical properties through all time. They were inherent in matter from creation and will leave it only when the world ceases to exist. In the space of time between these two epochs, which is only measured by infinity, matter has been penetrated at intervals by vital properties, and the physical and vital thus brought into union. Thus, we see that physical properties reside in matter constantly, but the vital only intermittently."

Another essential difference between the physical and vital properties of matter is pointed out by Bichat. He says: "All inert bodies possess no communication between parts, e. g., a part of a stone or the end of a piece of metal may be altered in any manner whatever by mechanical action or chemical dissolution; the other parts are not affected; in order to alter them, they must be acted upon directly. In the living body, on the contrary, the vital properties of no structure can be disturbed without others being affected as well. All physicians have known the singular sympathy which exists among all the organs, both in the state of health and disease, but principally in the latter. How easy it would be to study and comprehend diseases, if the various structures were deprived of all sympathy."

Bichat attempts to show the evolution of the vital properties, although he does not attempt to explain their origin. He says: "If we examine

the immense series of living bodies, we shall see the vital properties gradually augmenting in number and energy, from the lowest of plants to the highest of animals. The lowest plants show insensible contractility and organic sensibility. The lowest animals begin to add sensible organic contractility to these properties, and afterward animal sensibility and contractility."

"*Insensible contractility and organic sensibility* comprise all the phenomena of capillary circulation of secretion, absorption, exhalation, nutrition, etc. In the state of disease, all the phenomena that involve a disorder in these functions are clearly derived from an injury of these properties, such as inflammation, formation of pus, induration, resolution, hemorrhage, unnatural increase or suppression of secretions, increased exhalation, as in dropsies, diminished or wholly wanting, as in adhesions, absorptions, absorption disturbed in one way or another; nutrition altered more or less, or presenting unnatural phenomena, as in the formation of tumors, cysts, cicatrices, etc.

Sensible organic contractility governs, especially in the state of health, the movements necessary in digestion, and those of circulation; at least through the great vessles which carry the red and black blood of the general system, also the movements in the excretion of urine, etc. In the state of diseases, all the phenomena of vomiting, of diarrhoea, and a great many of those of the pulse, eventually result in disorder of the sensible contractility.

Animal sensibility governs all the external sensations, those of seeing, hearing, smelling, tasting and feeling, and the internal, as hunger, thirst, etc. Pain and its innumerable modifications, itching, smarting, tickling, the sensations of heaviness, lassitude, throbbing, pricking, pulling, are not these only different alterations of animal sensibility?

Animal contractility governs locomotion, the voice, etc.; convulsions, spasms, palsies, etc., are derived from an augmentation or diminution of this property."

Whether his physiology be sound or unsound, the fact remains that it led him to develop the grand idea of sympathy of parts, and the still greater doctrine of vital unity. Having once adopted this view of life and death, he was of necessity led to search most carefully all parts of the body to find out, not only in what structure disease originated, but also to what extent other structures were involved. In addition to defining his philosophical attitude, he recorded a number of physiological discoveries. He pointed out that death always begins in the heart, the lungs, or in the brain, and endeavored to determine the successive steps through which life withdraws from the various organs. He pointed out the influence of red blood on the life of the brain. The action of dark blood upon various functions, especially important for a later understanding of asphyxia. The action of the vagus nerve, also the functional interdependence of brain and heart.

Having spoken of some of the ideas recorded in his physiological work, let us next briefly consider his General Anatomy. The opening words

of his general anatomy run as follows: "There are in nature two classes of beings, two classes of properties, and two classes of sciences. The beings are organic or inorganic. The properties, vital or non-vital, and the sciences, physiological or physical. The animals and vegetables are organic; the minerals, inorganic; sensibility and contractility are vital properties; gravity, affinity, elasticity, etc., are non-vital properties."

"All animals are an assemblage of different organs which, executing each a special function, concur in their own manner to the preservation of the whole. Like several separate machines that make up a general one comparable to the individual. These separate machines in turn are made up of many textures of different kinds, which really compose the elements of these organs. Chemistry has its simple bodies, which form by various combinations, the compound bodies. In the same way anatomy has its simple textures, which by their combinations, make up the organs. These tissues are (1) the cellular; (2) the nervous of the animal life; (3) the nervous of the organic life; (4) the arterial; (5) the venous; (6) the exhalant; (7) the absorbent and their glands; (8) the osseous; (9) the medullary; (10) the cartilaginous; (11) the fibrous; (12) the fibro-cartilaginous; (13) the muscular of the animal life; (14) the muscular of the organic life; (15) the mucous; (17) the synovial; (18) the glandular; (19) the dermoid; (20) the epidermoid; (21) the pilous."

"The idea of thus considering abstractedly the different simple tissues of our bodies, is not the wish of the imagination; it rests upon a real foundation, and I believe that it will have a powerful influence upon physiology as well as practical medicine. From whatever point of view we examine it will be found that they are unlike. It is nature, and not science, that has drawn the lines of demarcation among them. * * * * Simple inspection suffices to show a number of characteristic attributes. Here is a fibrous arrangement, there is a granular one, others are lamellated, and still others, areolar. In spite of these differences, authors are not agreed as to the limits of the different tissues. I have had recourse, in order to leave no doubt upon this point, to the action of different reagents. I have examined all textures; submitted them to the action of caloric, air, water, the acids, the alkalies, the neutral salts etc., drying, putrefaction, maceration, boiling, etc." He says further: "It would seem at first glance, that all these experiments on the intimate structure of the tissues would yield but little, but I believe they have attained a useful end in fixing with precision the limits of each organized tissue."

"Much has been said since the time of Bordeu, of the peculiar life of each organ, which is nothing else than that particular character, which distinguishes the ensemble of the vital properties of one organ from those of another. Before these properties had been analyzed with exactness and precision, it was clearly impossible to form a correct idea of this peculiar life. But by following the ideas which I have given, it is found that the organs are composed of very different simple tissues. It is thus evident that the idea of a particular life can only apply to those

simple textures, and not to the organs themselves." * * * * For example, if one should attempt to describe the peculiar life of the stomach, it is evidently impossible that you could give a very precise and exact idea of it. In fact, the mucous surface is so different from the serous, and both so different from the muscular, that by considering them together, the whole would be confused.

"I believe the more we examine bodies and observe disease, the more we shall be convinced of the necessity of considering local disease, not from the standpoint of the compound organs, which are rarely not affected as a whole, but from the standpoint of their different textures, which are almost always attacked separately."

"Let us not, however, exaggerate this independence of the tissues of the organs in disease, lest experience should contradict us, for we shall see that the cellular system is oftentimes a medium of communication, not only from one tissue to another in the same organ, but from one organ to a neighboring one." Thus again, he emphasizes the doctrine of the sympathy of parts which he regards as of great importance in the study of disease.

In describing the cellular tissue, Bichat says: "The figure of the calls is so variable that we cannot describe them in a general manner; round, quadrangular, hexagonal and oval are found together. The best way to see them is to freeze an infiltrated limb. Numerous little icicles are then formed, and show by their form, that of the cells which they filled. Artificial emphysema is also a good way. I have often determined by it, in our slaughter houses, where they blow meats, the form of the cells. All the cells communicate from the feet to the head, by blowing air under any portions of the cutaneous organ the whole of the body is bloated. We know that sometimes beggars make use of these means without danger, for the purpose of exciting compassion."

Speaking of the accumulation of fat, Bichat has cited some curious conditions, he says: "Great fatty accumulations are often an effect, almost instantaneous, of certain circumstances, for example, of atmospheric influence. It is thus that in twenty-four hours a fog fattens thrushes, ortolans and red throats so that they are unable to escape the sportsman. This phenomenon is very frequently observed in autumn."

In describing the muscular system, he first divides the muscles into long, broad and short, and in a second article, he describes the muscle fibres which can be seen in aggregate, but not singly because they elude misroscopic researches, so great is the tenuity of the parts. Notwithstanding this extreme tenuity, a large number of researches have been made by Leuwenhoek and others during the last age, to determine with precision the size of the muscle fibre. I shall not give here these results, because we cannot rely upon their accuracy. Of what importance, moreover, is the size of the muscle fibre? This knowledge would add nothing to our physiological views on the motion of muscles. Further, he remarks: "I shall not speak here of the cylindrical form according

to some and the globular according to others; inspection teaches us nothing upon this point; how then, can we make an object of research and give an opinion upon that which has no real foundation? Let us say this much of the intimate nature of this fibre upon which so much has been written. It is unknown to us, and all that has been said upon its continuity with the muscular and nervous extremities, upon its supposed cavity, upon the marrow, which according to some, fills it, is only a collection of vague ideas which nothing positive confirms, and to which a methodical mind would not attend. Let us begin to study nature where she begins to come under our senses. I would compare the anatomical researches upon the intimate structure of the organs to the physiological researches upon the first causes of function. In both we are without guides, without precise and accurate data; why then, give ourselves up to them?"

In the description of the intestinal villi, he first compares them to the papillae of the skin and then says: "Very different ideas have been entertained of their nature; they have been considered in the stomach and the oesophagus as destined for the exhalation of the gastric juice." Leiberkühn had, through the microscopical examination, observed the vesicular appearance of the villi, but Bichat points out that Hunter, Cruickshank and Henson had all denied their existence, and says: "I am certain that I have never seen anything similar on the surface of the small intestines, at the time of chylous absorption."

After discussing the villi to a considerable extent, he maintains that the papillae and villi over all free surfaces of the body, have to do with sensibility. In a final consideration of these structures, he refers again to microscopical study, in these words: "The delicacy of these elongations conceals their structures even from our microscopical instruments, agents from which anatomy and physiology do not appear to me to have derived much assistance, because when we see obscurely, each sees his own way according to his own wishes."

With this incomplete and superficial study of Bichat's General Anatomy, we pass on to brief consideration of his Descriptive Anatomy. But before doing so, one point should be emphasized, viz: that although Bichat was the founder of histology, he failed to realize the importance of microscopic anatomy.

Bichat's Descriptive Anatomy was published during the years 1801-03. The first two volumes and a part of the third were probably written by Bichat. The rest of the third and the fourth were finished by Buisson, while Roux wrote the fifth. In his introduction, he says: "The twenty and one tissues were made the subject of my General Anatomy. Their diverse combinations will be that of my Descriptive Anatomy. * * * * The idea of an organ carries with it necessarily that of a composite of several different tissues, which, separated from one another, would be insufficient for the function of this organ, but one which, by their unison, they are able to execute."

[TO BE CONTINUED.]

MEDICAL AND SURGICAL PROGRESS.

THE TREATMENT OF SCAR-CONTRACTURE BY FIBROLYSIN.

A REVIEW OF RECENT LITERATURE.

By Wm. Engelbach, M. D.

1. Fibrolysin.—Brandenburg (*Med. Klinik.*, 1907, No. 30).
2. Therapeutics of Fibrolysin.—Pope (*British Med. Jour.*, June 22, 1907).
3. The Use of Fibrolysin in Stenosis of the Pylorus.—Ortner (Text '07).
4. Fibrolysin in Unresolved Croupous Pneumonia.—Krusinger (*Muench. med. Wochenschr.*, No. 14, April, 1908).

Fibrolysin is a compound of thiosinamin with sodium salicylate. It is marketed in sterile solution put up in glass pearls, each containing 2.3 cm. which correspond to 0.2 g. thiosinamin. The contents of one pearl is injected into the muscles or given intravenously.

Since good effects with fibrolysin had been seen in adenitis, fibrous tumors, scar-forming skin diseases, in Dupuytren's contractions, in stenosis of the oesophagus due to scar formation, etc., the idea came to Domenico to try its effects in diseases of the eye. He had very good results in three cases of opacity of the cornea, in two cases of trachoma, in one case of opacity of the iris, and in one case of neuritis with atrophy of the optic nerve. The results of Brandenburg have not been as fortunate. He employed the remedy as an injection in the muscles of the thigh or into the gluteal region. Effects of local irritation were not observed. Pains of the injections themselves were little or nil. A harmful influence upon the general system was not noticed except in one case where there were complaints of dizziness and headache after 19 injections. Injections were given two or three times per week, in toto per case 12 to 20 times. In such manner Brandenburg treated one case each of opacity of the cornea following keratitis scrophulosa, keratitis purulenta, keratitis trachomatosa, two cases of chronic uveitis, and one case of chronic retrobulbar neuritis. It is true that some patients declared their eye-sight improved, but in no case could a considerable improvement be recognized as a result of the fibrolysin treatment.

Pope recorded a case of locomotor ataxia treated by intramuscular injections of fibrolysin which was followed by much improvement and a return of the knee jerks. The patient was 32 years old, and on coming under treatment he was a very typical case. He presented areas of paraesthesia and impairment of special senses, was very ataxic, had difficulty in micturition, and some hemiatrophy of facial and lingual muscles. He had Argyll-Robertson pupils, absence of knee jerks, and Rombergism. Treatment was begun on January 2d, 1907, by an intra-muscular injection of 2.3 ccm. of fibrolysin. This was repeated on alternate days for nineteen times; at the end of which period there was improvement in standing and walking, but much incoördination persisted. After two more injections the knee jerks had returned. When twenty-four injections had been given in all the treatment ceased; but two months later the patient was still able to walk about with the aid of two sticks, the

knee jerks were retained, and there were no shooting pains—but the pupil reaction was unchanged. He recommended a further trial of this remedy in tabes. Further experiences with the same drug are recorded by Hastings. Some months after an attack of typhoid fever in 1889, a female, aged 46, began to suffer from an indurated patch on the calf of her left leg. This ulcerated and healed, but numerous other ulcers followed with increasing induration. The process lasted for years, so that in November, 1906, her condition was as follows: The lower half of her leg was firm, smooth, scarred, and contracted. In the center of the indurated area posteriorly there was an ulcer of the size of a crown piece. A smaller ulcer was situated below and in front of it. On the anterior and inner aspect of the limb there was a hard fibrous prominence, about the size of half a cherry. A half-ampulla of fibrolysin was injected on February 12th as treatment had not effected any improvement This injection was repeated on February 15th, and for the next five weeks one ampulla was injected twice weekly into the limb in various situations. The injections were followed by marked local reaction. After the second, all pain ceased and the leg seemed softer than before; the ulcers also looked healthier. The nodule in front of the leg diminished in size. As the injections were persisted in the smaller ulcer entirely healed; the larger one became as small as a shilling and the fibrous nodule practically disappeared. The greatest relief experienced by the patient was the cessation of the pain. Hastings states that thiosinamin (fibrolysin) succeeds best when the fibrosis has existed for some considerable time. In sub-acute or barely completed pathological conditions it is contra-indicated, as it is liable to re-awaken the inflammatory process. The theory of its action is that its injection is followed by a hyper-leucocytosis, and it is thought that during this period a destruction and absorption of nodules and of cicatricial tissue may occur. This writer also refers to a case of keloid in which he employed thiosinamine injections, but the only effect was a temporary softening of the edges of the keloid patch. On the other hand, he states that the milder varieties of Dupuytren's contraction benefit from the treatment, as also fibrous stenosis of the oesophagus and pylorus, but it is of little value in urethral strictures.

Ortner has used fibrolysin in a number of cases of benign stenosis of the pylorus without any noticeable favorable effects. In some cases the injection of thiosinamin produced marked local inflammatory changes which, however, did not produce any serious effects.

Krusinger reports very favorable results upon two cases of unresolved pneumonia treated with fibrolysin. One case had persisted for four weeks after the crisis, with the x-ray findings of consolidation of the lung. The other case had resisted the ordinary treatment for two weeks after the crisis. In both of these cases there was an immediate change of the physical findings after the first injection of fibrolysin, and after a short series of injections of the ordinary amount the lungs in both cases were free from all signs. Previous abstracts on this subject have been given in this JOURNAL referring to the treatment of arteriosclerosis, chronic valvular diseases of the heart, chronic adhesive peritonitis, etc., which have varied to a considerable extent as to their favorable effects. If one could draw any conclusions from the treatment of chronic connective tissue contractures by fibrolysin the most one could infer was that this treatment has not proven successful, but as most of these conditions are such that other treatment has very little effect one is warranted in recommending fibrolysin as so far no bad results have been recorded and some cases have been reported improved from its use.

CONGENITAL HYPERTROPHIC PYLORIC STENOSIS.

A REVIEW OF RECENT LITERATURE.

By Alfred Friedlander, M. D.

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17. Medical Treatment of Pyloric Stenosis. — Sutherland (*Lancet,* March 16, 1907).
18. Ibrahim (*Jahrbuch f. Kinderheilk,* February, 1907, page 237).

As the result of his anatomical studies, Wernstedt says that cases of pyloric stenosis should be divided into two groups. (1) A congenital stenosis, a malformation dependent upon fetal changes. This form is very rare. (2) Congenital *hypertrophic* stenosis, including the large majority of all cases. Here the musculature is hypertrophied not only at the pylorus, but throughout the body of the stomach as well, even at the fundus. Pathogenetically it would appear clinically as well as anatomically, that the stenosis is due originally to a spasm of the pyloric and antrum musculature. Wernstedt holds that while the condition is probably congenital, indisputable proof of this has not yet been furnished. He thinks that there exists at birth a predisposition to spasm with secondary hypertrophy. This postulated predisposition to spasm is to be explained by imperfect development of the nervous mechanism regulating gastric motility. The increased, and partly entirely new, demands made on the stomach directly after birth, might easily be the cause of the dis-

turbances of the nervous mechanism. Heubner has made a careful statistical study of all of his cases. In a clinical material embracing 10,000 infants, he has found pyloric stenosis in 49 cases. Of 21 cases that could be followed, 18 were alive a year later. Heubner also holds that there is a muscular hypertrophy not only of the pylorus, but of the rest of the stomach as well. This hypertrophy is secondary to a functional disturbance (spasm), and there is therefore *no* primary malformation or new growth.

The diagnostic symptoms have been thus set forth in the order of their importance, by Cautley: Forcible, ejectile vomiting, constipation, with clean tongue and sweet breath; visible peristalsis; palpable pyloric tumor, and dilatation of the stomach.

In cases of simple pylorospasm, the vomiting is usually different for the food is usually brought up at once without any ejectile effort with rather the effect of a simple regurgitation. Peristalsis is slight or absent and no pyloric tumor can be felt. It is rare for two or more feedings to be retained and then vomited, as is often the case in pyloric stenosis. In his careful anatomical and clinical study, Bloch discusses the various symptoms in detail. He distinguishes two periods of vomiting, even in the cases of stenosis, viz., food vomited directly after ingestion and a period in which food is retained for some time before being ejected. Peristalsis is noted *only* during the second period. According to Bloch, the condition is much aggravated by the frequently complicating gastritis, which diminishes the motor power of the stomach and increases the stenosis. Romme has also found the gastritis to be a factor of importance in these cases, and Furmann has reported a case where medical treatment as such was of no avail until attention was paid to the accompanying gastritis, when recovery followed. Tobler made a series of examinations of the stomach contents in a typical case, in which there was often retention for several hours at a time. He found that there were always fats in the stomach, whenever these had formed part of the food (e. g., milk). He believes that there exists in these cases a serious disturbance of the "fat transportation" through the stomach, which would explain the fact (noted by many observers) that these cases do better on a fat-free diet. Meyer has studied cases with a view to determining the cause of death. He denies the generally accepted statement that death is due to persistent vomiting and consequent starvation. In three fatal cases, the infants really recovered from the stenosis, but succumbed to a form of intoxication (alimentary intoxication with glycosuria). The loss of tissue probably leads to disturbances of the processes of nutrition. Death is therefore an indirect rather than a direct result of inanition. These observations show the importance of not keeping the food supply too low in these cases, and the necessity of resuming ordinary diet as rapidly as possible after vomiting has ceased.

There has been much discussion of late as to the proper method of treatment. A review of the general literature must necessarily lead one to the conviction that, on the whole, the best results have followed the use of medical treatment properly carried out. In Germany, for instance, fewer cases are being operated on now than ever before, because of the good results that have been brought about through proper medical treatment. And even in England, the view is generally gaining ground that surgery should not be resorted to too early. In large part, the good results of medical treatment have been due to the general recognition of the value of daily gastric lavage in these cases. Pfaundler, who has done a great deal of work in this field, says categorically that lavage is to be

considered as almost a specific. Whether, as Bloch and Carpenter hold, this lavage acts by relieving the underlying gastritis, or whether it is merely an excellent antispasmodic, may well remain undecided; the fact of its therapeutic value is indisputable. Lavage also prevents stagnation of food and tends to diminish the danger of gastric dilatation.

The surgeons hold that when cases are relieved or apparently cured by internal treatment, doubt must be cast on the diagnosis, and they claim that the medical "cures" are always and solely cases of simple pylorospasm. This claim is abundantly disproved by the published cases of Bloch, Ibrahim and Batten. All of these men have had cases recover under purely medical treatment, the children dying at some subsequent period, of some intercurrent affection. Autopsies in all of these cases have shown the presence of hypertrophied gastric and pyloric musculature *without* remaining stenosis, showing that the cases had originally been unquestioned cases of hypertrophic pyloric stenosis.

So far as recent clinical reports as to the relative value of surgical and medical treatment are concerned, the following figures are of interest: Kimball and Hartley report an operative case (gastroenterostomy) in an 8 weeks old infant, with perfect recovery. These authors could find only 3 reported recoveries in this country after operation. They refer, however, to Fisk's figures, 71 operative cases with recovery in 53 per cent.

In a discussion before the Clinical Society of London last year, Voelcker reported 39 cases observed in 10 years (35 in boys) with 34 deaths. (Methods of treatment not given.)

Burchard reported 16 operations (pyloroplasty) with 10 recoveries. Dent reported 120 operated cases with a mortality of 50 per cent.

Still reported 23 cases, 14 recoveries; 8 with operation, 5 with lavage, 1 with simple regulation of the diet. Of his 9 fatal cases, 3 were operated, 3 were treated medically and 3 were not treated at all.

Bloch reports 12 cases. 4 operated on with 2 deaths, 8 treated medically with 2 deaths.

Carpenter in 1906 reported 3 cases, all operated, all ending fatally. In 1908 he reports a case successfully treated medically.

Sutherland reports 3 cases of recovery under medical treatment. Schitomirsky two, Furmann and Uffenheimer each one.

In general one may say that from a review of the literature, one is forced to the conclusion that surgical intervention is not justified (even with the diagnosis absolutely made) until careful medical treatment, according to modern methods, has been thoroughly tried. The principles of this medical treatment may be thus briefly summarized: (1) Daily lavage. (2) Regulation of the diet. (3) The use of drugs. As to diet, it appears that non-irritating food is necessary. Excellent results have followed the use of small quantities of buttermilk, or of whey with added milk sugar or of breast milk when obtainable. If whey is used, cream may gradually be added. An important feature is to keep up the nutrition as well as possible by forcing the feeding as quickly as may be.

Of drugs, opium easily holds first place. It is to be given in appropriate doses frequently repeated and probably is much better as an antispasmodic than bromide. When there is great prostration, salt injections are often of value. Constipation is to be relieved by enemata. Purgatives should not be used.

With reference to the operation of choice, should surgical intervention be decided on, it seems that at present gastroenterostomy, pyloroplasty and Loreta's operation (divulsion) are used, preference coming in the order named.

THE RELATION OF NASAL AND ACCESSORY SINUS DISEASE TO CERTAIN DISORDERS OF THE EYES.

A REVIEW OF RECENT LITERATURE.

By John Green, Jr., M. D.

1. The Position of the Ophthalmologist in the Treatment of Diseases of the Accessory Sinuses of the Nose.—W. C. Posey (*Ophthalmic Record,* August, 1907).
2. Contribution to Our Knowledge of Optic Nerve Disease in Connection with Disease of the Posterior Accessory Sinuses of the Nose.—Birch-Hirschfeld (*Graefe's Arch.,* May, 1907, lxv, H. 3).
3. A Study of Optic Neuritis in Connection with Nasal Accessory Sinus Disease.—H. M. Fish (*The British Med. Journ.,* November 2, 1907).
4. Disturbance of Vision and Blindness Produced by Contralateral Nasal Affection.—A. Onodi (*Orvosi Hetilap,* xxx, 1906).
5. Two Cases of Nasal Affection, with Complicating Ocular Symptoms.—Deleneuville (*La Clinique Ophtalmologique,* September 25, 1907).
6. Iritis Due to the Disease of the Sinuses.—F. G. Mason (*Iowa Medical Journal,* December 15, 1907).
7. Optic Neuritis After Disease of the Posterior Ethmoid Cells.—A. Knapp (*Arch. Ophth.,* January, 1908, xxxvii, 24).
8. The Relation of the Eye and the Nose.—H. C. Parker (*Ophthalmology,* April, 1908).

The present universal appreciation of the close relationship between nasal and sinus disorders on the one hand and ocular and orbital disease on the other has rendered it a matter of great difficulty, in many instances, to determine the borderline between the fields of ophthalmology and rhinology. Thus we find in rhinological journals a discussion of the technique of operations on the orbit and in ophthalmological journals a consideration of nasal surgery in so far as it encroaches upon the eyeball and the orbital cavity. This question has been carefully considered from the ophthalmic standpoint by Posey,[1] who believes that the ophthalmologist should so familiarize himself with the anatomy and diseases of the accessory sinuses of the nose that any operative work upon the orbit from extension of disease of the sinuses can be performed by him in a thorough and intelligent manner. Upon the ophthalmologist should rest the operative responsibility, but the advice and assistance of the rhinologist are invaluable.

An analysis of four cases in which optic nerve disease occurred in connection with disease of the posterior accessory sinuses and a consideration of the literature have led Birch-Hirschfeld[2] to the following conclusions: First, That inflammatory affections or neoplasms of the

posterior ethmoidal cells may spread to the orbit or optic nerve and produce early and severe damage to visual acuity, leading sometimes to blindness. Second, that visual disturbance may first appear as a central scotoma with intact peripheral field. Third, that the early demonstration of central scotoma may be of the greatest significance because of the difficulty often experienced in diagnosing affections of the posterior ethmoid and sphenoid cells. Fourth, that the differential diagnosis between a toxic and optic neuritis and that due to infection of the posterior ethmoid cells should rest upon (a) the uniiateral nature of the condition (not invariably so!) (b) The relatively acute development of the visual disturbance and the tendency to progression into an absolute scotoma, while later there is a contraction of the peripheral field. Fifth, that the anatomical cause of the central scotoma may be due to an isolated disease of the papillo-macular fibres behind the position of the entrance of the vessels. It consists of an edema of the optic nerve, swelling and proliferation of the ganglion cells and a pronounced degeneration of the nerve fibres.

The causal relation between optic neuritis and sinus disease appears to be pretty well established. Certain writers, however, regard the two lesions when present as merely coincidental. In an effort to disprove the latter view Fish[3] has made a careful search of the literature and has unearthed about 100 cases of primary and secondary optic neuritis with all degrees of visual disturbance in which one or more of the nasal sinuses, have caused the neuritis. This finding is at variance with the generally accepted theory of to-day that the nerve lesion is due solely to an extension by continuity. Allusion is made to the extreme frequency of sinusitis, the fact that chronic sinusitis may lie dormant for months or years and that sinus disease is found with extraordinary frequency by pathological anatomists. Many so-called idiopathic ocular lesions are, in the author's estimation, ocular extensions of sinus disease. He gives a table of thirty-six consecutive cases of optic neuritis in which nasal accessory sinus disease was present twenty-six times. Another table comprises four bilateral cases and forty-one unilateral cases of various reporters in which there was improvement after treatment of the sinuses; and a third table of thirty-nine examples reported by different observers in which no improvement followed treatment of the sinuses. Fish especially emphasizes the fact that a negative nasal finding does not exclude sinus disease and furthermore that such disease is the most frequent cause of affections of the optic nerve.

The relation of the posterior ethmoid cells and the sphenoid bone to the optic nerve and chiasm has been carefully studied by Onodi.[4] He concludes that unilateral, bilateral, and contralateral disturbances of vision and blindness are often caused by affections of the posterior ethmoid cells and the sphenoid sinus.
existence of a sphenoidal sinusitis. R. V. counts fingers at 1 meter. L. V. 5-10. Treatment directed to the nasal affection brought about complete restoration of vision.

It is now recognized that iritis and iridocyclitis may rarely be due to sinus disease. Mason[6] discusses the pathology of this condition. He reports two cases of severe inflammation of the entire uvea, in one of which one eye had to be enucleated; in the other one eye was already blind from occlusion of the pupil. Recovery from uveal inflammation was affected in the first case by relief of the sinus inflammation by removal of the anterior portion of the middle turbinate, and in the second case by removal of the posterior end of the turbinate to free the sphenoid

cells from pus. Ocular symptoms frequently due to sinus disturbance, include headache, lacrimation, uveitis, muscle imbalance, ocular vertigo, and neuralgic pain. Whatever ocular signs are present are apt to be more pronounced in the morning and are frequently unilateral.

Deleneuville[5] reports a case of a man, forty-six years old, who had a retrobulbar neuritis. Examination of the nose demonstrated the

Optic Neuritis after Disease of the Posterior Ethmoid Cells is discussed by Arnold Knapp,[7] who reports a case of involvement of the optic nerve incident to an acute posterior ethmoiditis. The fundus showed a typical neuroretinitis. V. 20-80. Visual field, normal peripherally, displayed a relative central scotoma for white and colors of five degrees. The anterior half of the middle turbinate was resected, and the posterior ethmoidal cells curetted. Seven weeks later vision and fundus had become normal.

The whole subject of the relation of the eye and the nose has been carefully and concisely summarized by H. C. Parker.[8] He recalls the fact that the relation between lacrimal blennorrhea and nasal inflammation has been recognized many years, and asserts that at least 50 per cent. of all such cases are due to nasal disease. He claims that practically every case of phlyctenular conjunctivitis and keratitis are dependent upon a nasal or postnasal disease. Such cases demand for permanent cure appropriate treatment of the nose in conjunction with ocular and general measures. Disease is transmitted from the nose to the eye in three ways: First, by way of the naso-lacrimal duct; second, through the blood stream, and third, by way of the nerves. The first method of propagation is the most important.

Serpiginous ulcer of the cornea, tuberculosis of the eye, diphtheritic conjunctivitis and gonococcal ophthalmia have all been traced to infection from the nose.

The intimate relation of the vascular system of the nose and eye explains certain cases of iritis and inflammations of the whole uveal tract. Even monocular glaucoma has been with much plausibility ascribed to nasal abnormality. Various symptoms of asthenopia arise from reflex nervous irritation of the nose. This may be due to muscular insufficiency, or irregular contraction of the ciliary muscle. Such cases usually show nasal or accessory sinus disease, the vast majority having an hypertrophy of the turbinates. He alludes to the cases referred to by Haskell as suffering from "potential contact," i. e., contact in the nose which is only present at times. The days on which the turbinates are not in contact with the septum, the patient suffers no ocular symptoms. Other days when the nose does not offer free passage to air the ocular symptoms return. Such cases as these, even if the refraction is corrected by mydriatic test cannot wear their glasses with comfort, and it is not until nasal obstruction is relieved, usually by operation, that the refractive error remains constant and the ocular symptoms disappear. Variation in the axis of an astigmatism on one side is not rarely to be accounted for by congestion or hypertrophy on the corresponding side of the nose.

The frequency with which muscular imbalance is associated with enlarged turbinates, spurs, deviations and especially with accessory sinus disease leads this author to affirm the necessity of thorough nasal examination and treatment of any existing nasal disease before resorting to the use of prisms or performing tenotomy or partial tenotomy for the correction of this error. He well says "the operative treatment of muscular insufficiency has given rise to more neurasthenics and less relief than any other form of ophthalmic treatment in recent years."

Emphasis is laid on the fact that monocular headache, not necessarily dependent upon the use of the eyes, and which is more severe in the morning and is greatly accentuated when the patient stoops, usually indicates sinus disease.

Purulent sinus disease, especially of the frontal, causes various ocular symptoms by direct transmission of infection to the orbital cavity. This suppurative process extends by means of the small vessels (or necrosis) to the periosteum of the orbit, where it causes a periostitis or a subperiosteal abscess, which in time becomes an orbital abscess.

The anatomic position of the accessory sinuses readily explains how infectious processes pass from them into the orbit. The os planum of the ethmoid forms the inner wall of the orbit. The floor of the frontal sinus forms part of the upper wall of the orbit. The antrum, or maxillary sinus, lies beneath the floor of the orbit. The sphenoid sinus may under certain circumstances come into contact with the orbit and the dividing wall may be so thin as to offer little resistance to the advancement of purulent disease.

However necessary recognition and treatment of the nasal abnormality may be in these cases, it is equally incumbent upon the physician not to neglect local treatment of the eyes.

CORRESPONDENCE.

LONDON LETTER.

[FROM OUR OWN CORRESPONDENT.]

The annual conversazione of the Royal Society was, as always, a most successful and very enjoyable function. The exhibits were full of interest and ranged over much ground in the realms of science. A very popular demonstration and one that caused great amusement was that by Professor C. V. Boys of the dynamics of that terrible infliction—diabolo! The medical exhibits were especially good, in particular that sent by the Executive Committee of the Cancer Research Fund. This consisted of a really beautiful series of photo-micrographs, which showed every step in the change from carcinoma to sarcoma. Another series of photo-micrographs showed that the types of cancer in vertebrates differed with different species. This had a direct bearing upon the series of diagrams, which illustrated the manner in which immunization had been obtained in mice by the injection of an extract of the skin of embryo mice. The difference in type in different species clearly shows that immunity in a given species can only be secured by using the extract obtained from the skin of a member of the same species. In the diagrams it was shown that in the case of a mouse infected with a cancerous tumour, no fresh tumour can be ingrafted into it, if it has been protected by the extract of embryo mouse-skin. Another exhibit of great interest was Mr. Gordon Hewitt's description of the life-history of the house-fly, showing that economically his presence was of benefit only as evidence of the existence of dirt of every description, but chiefly excrementition. This exhibit reminded one of the fact that a most useful investigation is being carried on at the instigation of the Local Government Board as to the connecton of the house-fly, under which general name are included several distinct species, with certain diseases. One exhibit at first sight seemed to have mistaken the *locale,* and should have properly been at a vegetable show, but it belonged to Professor Bottomley who showed a collection of very fine turnips, radishes and beetroot taken from crops inoculated in the field with the nitrogen-fixing bacteria. The Grouse Disease Commissioners' Exhibit showed the parasites to which these birds are liable—the most frequent and fatal being nematode worms in the intestines.

The Anti-vivisection Societies are a good deal worried just at present. They are not particularly happy about the forthcoming report of the Royal Commission and are industriously vilipending the individual Commissioners. Now a fresh annoyance has been sprung upon them in the shape of the Research Defence Society, which is being formed under the presidency of Lord Cromer. A good start has already been made in the issue of pamphlets and leaflets on different subjects. Mr. Stephen Paget is the honorary secretary and it is safe to predict that much good work will be done in correcting the flatulent ebullitions emitted *ad nauseam* by the various anti-bodies. The Swedish lady, who poses as an authority on physiology, on the strength of having attended a summer course of lectures on the subject with the avowed intention of obtaining evidence of the cruelty, etc., etc., now has a Council of her own.

The Goulstonian lectures at the Royal College of Physicians have this year been delivered by Dr. Herbert French, Assistant-physician to Guy's Hospital, who selected as his subject the influence of pregnancy upon certain medical diseases, and of certain medical diseases upon pregnancy. The field covered was a most extensive one and each subject was dealt with exhaustively. The lectures will form a valuable contribution to

knowledge for much original work has been included. The lecturer has added considerably to his reputation, already a growing one, as one from whom much may be expected in the future. His selection for the honourable task of Goulstonian lecturer at so early a stage in his career is itself a very notable fact.

An interesting and in many ways informing discussion took place recently at the Royal Society of Medicine on the diagnostic value of the X rays in tuberculosis of the lungs, more especially as concerns the early recognition of the presence of the disease. Ardent radiographers maintained the superiority of the skiagram, but on the other hand there was ample evidence forthcoming that, at all events at present, skilled and accurate percussion holds the premier position as the vital element in diagnosis at an early stage. If the discussion emphasized nothing else, it certainly showed the great necessity for acquiring a skilled and delicate method of percussion together with an instant and accurate power of interpretation. The *tactus eruditus,* that trained and disciplined sensibility of the finger-tips, is, and will always remain, the hall-mark of the good diagnostician. No recording instrument, however dainty and ingenious, can ever replace it. The delicate perception of the pulse, which the old-time physicians developed to such a remarkable degree, is still a most desirable accomplishment.

Sir Samuel Wilks has again taken advantage of the advances in modern surgery, and has been happily relieved of a painful and distressing disorder by Mr. Charters Symonds. He will be 84 years old in June, and the latest reports give excellent news of a good recovery.

A well-known name disappears from the consulting staff at St. Thomas's Hospital and one which was held in general esteem and regard not only for his personal qualities, but also for his professional work and attainments. Dr. C. J. Cullingworth, Consulting Obstetric Physician to that institution has just succumbed to angina after suffering from attacks of the disease for some years. He came to London from Manchester about twenty years ago.

June 10th.

PARIS LETTER.

[FROM OUR OWN CORRESPONDENT.]

It is admitted to-day by the best authorities that the curability of pulmonary tuberculosis depends on whether or not an early diagnosis has been made. We know from Grancher's investigations that the presence of a souffle and moist râles indicates an advanced period in the disease; and that to make an early diagnosis it is necessary to ascertain if at the apices of the lungs, there are certain modifications of the vesicular murmur perceptible on inspiration. Grancher has also taught us as symptoms of the initial tubercle, a rough or weak inspiratory sound, and a diminution of the vesicular murmur.

In spite of the weight of Grancher's opinion, all doctors are not at one as to the semiologic value he attaches to the inspiratory changes at the apices of the lungs, as an early diagnostic point in incipient tuberculosis. M. Fernand Bezançon, in the course of his investigations on this subject, has succeeded in relieving 173 cases in which there was a diminution in the vesicular murmur at the apex, without râles, and without modifications that could be noticed on percussion.

In certain cases the important point was the complete absence of the vesicular murmur, or a lessening more or less complete without change in the timbre; at other times besides the lessening there was the rough respiratory sound described by Grancher. The seat of this lessening in the

murmur was not confined to one side, appearing as often on the right side as on the left; in fact, in 127 cases, it was evident on the right side while only in 46 cases was it noticed on the left. The greater frequency of abnormal inspiration on the right side has also been observed by Grancher and his pupils in the course of examinations made in the schools of Paris. In the course of a methodical auscultation of a large number of children, who in appearance seemed healthy, it was found that out of every hundred examined, 15 had an abnormal respiration, consisting of feeble inspiration at the apex, especially on the right side. M. Lemoine, of Val-de-Grâce, has had similar results on examining a number of soldiers.

Two-thirds of the cases examined by M. Bezançon had either an antecedent history or symptoms of sufficient gravity to warrant us in pronouncing them carriers of the tubercle. In these instances it is only the exceptional case where we can truthfully say that the diminution in the vesicular murmur was the first symptom in the incipiency of the disease, since in the majority of cases the general or functional signs which were present had appeared many years before. Nevertheless, it should not be overlooked that the tuberculous disturbances more or less latent, which are clinically observed, are the second stage of the disease. The first stage may last during the whole period of childhood or, in case of the adult, during many years.

The diminution in the vesicular murmur appears then as a permanent symptom and not as a transitory sign necessarily preceding the souffle and the moist râles. In fact, this clinical picture is often abortive, since the diminution of the murmur is in accordance with the retrocession of the tuberculous lesions or, at least, with amelioration of the severity of the case. Hence it can be said in all truth that the diminution in the vesicular murmur as a clinical factor is not necessarily a symptom occurring at the inception of pulmonary tuberculosis.

In the second group of cases examined—this group was equal to one third of the number—there were no tuberculous antecedents. Some of the patients, however, were found to have indications of chlorosis while others were suffering from lesions of the rhino-pharynx. What then is the significance of the symptom when it occurs in subjects apparently free from tuberculosis? The answer is difficult, to say the least. The probability is that a certain number had latent tuberculosis, others tracheo-bronchial adenopathies, and the rest may have been in a neuropathic state.

The frequency of the vesicular murmur on the right side is difficult of explanation. Certain authors assert that the murmur is more intense on the left side. Others are of the opposite opinion. Sometimes it happens that when individuals breathe normally, there is no appreciable difference between the two apices. Moreover, it would not be uninteresting to take up the study, at some future day, of the tracheo-bronchial glands and ascertain, if possible, if the glands on the right side are not larger and more numerous than on the left.

The conclusion to be drawn from the above is that a diminution in the vesicular murmur at the apex, especially on the right side, is symptomatic of the probability of the presence of tuberculosis,—not of the incipient sort but of the torpid, latent and milder forms. But if the murmur appears simultaneously with the unmistakable signs and symptoms of the disease, it may be regarded as a diagnostic point. If, on the other hand, there is no fever, no loss of weight, no anorexia, it would be well to keep such a patient under observation since, according to the teachings of our present scientific knowledge of the disease, it is not possible to pronounce him tuberculous.

June 10th.

OBITER DICTA FROM FOREIGN JOURNALS.

THE DEGENERATION AND DIPSOMANIA OF EDGAR ALLAN POE.

Of all our literary men, Poe is better known in France than some of our writers who have achieved greater fame at home. This is not surprising when one remembers that not only was the poet and romancer a man of extraordinary talent, in the sense of possessing genius that was a new manifestation in the world of letters, but his individuality was erratic and unusual enough to make appeal to the critical—especially to the French, who are known to take a deep interest in the vagaries of human nature. In a recent issue of the *Journal de Médecine et de Chirurgie* there appeared the following article telling us some of the reasons for the American poet's eccentricities:

Nothing would be more interesting than a work which would give us a composite picture, not only of all those writers who have suffered from a sudden attack of insanity occurring early or late in their careers, but also of those who produced their most celebrated books while in a state of alienation. Although such cases are numerous enough, we believe they have never been studied together. Now while Dr. Carrère in his Toulouse thesis on Edgar Allan Poe continues on the old lines of limiting his study to one individual, his effort is worthy of the highest praise, for his diagnosis of the poet's mental ailment—the insanity of degeneration—is supported by forceful and scientific argument.

The poet's insanity, according to Dr. Carrère, was chacterized: First, by the influence of heredity—and in the poet's case heredity was decidedly influenced both on the paternal and maternal sides; secondly, by impulsiveness for he was an avowed dipsomaniac, whose dipsomania was the cause of prolonged alcoholic intoxications, intellectual manifestations of which we find in those of his works where fantasy and fear occupy a prominent place; thirdly, by a succession of periods of melancholic depression alternating with maniacal excitation; and this phase of his ailment was so pronounced that it could easily pass for circular insanity; and finally, when under the influence of liquor, his insanity was well established since it had the characteristics of a polymorphous delirium in which the successive stages occurred so rapidly that they superposed on each other until there was complete confusion.

The manner of Edgar Allan Poe's death deserves some mention. To quote the author: "On the Friday preceding his death, according to Dr. Moran, the conductor of the train by which he was traveling ostensibly to Philadelphia, seeing that he was in no fit condition, put him on another train at Havre de Grace and sent him back to Baltimore. Arriving there during the night, instead of going at once to an hotel, he wandered about the streets and while in this state of stupor was corralled by a gang of political thugs, who despite his pitiable condition, marched him, from early morning, from polls to polls to vote in their stead. A

printer who later found him more dead than alive at the fourth ward polling station in Ryan's saloon, took pity on him and sent word to an old friend of the poet's, Dr. Snodgrass, to come at once. Recognizing his deplorable condition, the doctor sent him to the Washington Hospital, where he was admitted at five in the afternoon; his relatives, especially his cousin, Neilson Poe, being immediately apprised of his whereabouts. From the time Poe entered the hospital, his delirium increased and on the next day, Sunday, towards five o'clock (Oct. 7, 1849) death set in."

AMAUROTIC FAMILY IDIOCY.

MM. L. Babonneix and M. Brelet, in the *Gazette des Hopitaux* of May 16th, have a highly interesting contribution to the study of amaurotic family idiocy. The following extract, though brief, is indicative of the thoroughness which characterizes the article throughout:

The researches of Bourneville and Séglas, of Fouque, Riva, and Trénel, have established the existence of a family idiocy which is peculiar to children in the same family and manifests itself, moreover, in all, in the same symptomatic manner at similar periods in their physical and mental development. Of the family idiocies which can without doubt be attributed to functional insufficiency in certain nerve territories, the amaurotic sort is the most important. The principal characteristics are that though the child is normal at birth, in the course of the first year it shows psychic disturbances which approach to idiocy. At the same time there occurs a progressive diminution in the sight and, finally, complete amaurosis. These ocular disturbances can be traced to a special lesion of the macula and an atrophy of the optic nerve. The child gives evidence of weakness in the limbs: a slight palsy, at first indicated by feebleness; later it is often spasmodic. Marasmus ensues, followed by death in the second year. These characteristics are seen almost exclusively in the Jewish race, and invariably indicate amaurotic family idiocy.

This disease was first described by Warren-Tay. In 1881 he described a characteristic lesion of the fundus of the eye in children affected with family idiocy, and in 1884 he published some new observations in connection with analogous cases, reported in Germany and America. But it was not until Sachs published his researches that a complete clinical description with the anatomical lesions of this little known affection, which Sachs called amaurotic family idiocy, was made known to medical men. Until 1906 the Warren Tay-Sachs account of the disease was the only one known in France; the foreign researches being the only ones to hand. True, short analyses of the work done by foreigners appeared now and then; as for instance in the article on "Idiocy" by Chaslin, in the "Treatise of the Diseases of Children;" by Londe in the "Treatise of Medicine," and by Bourneville in the "Treatise of Medicine and Therapeutics." A general review by Sarvonat (Feb., 1906) and a thesis by Provotelle (July, 1906) were the first important works on amaurotic family idiocy, by Frenchmen, to attract attention to a disease of which no case had as yet been reported in France.

MM. Apert and Dubois have recently communicated to the Société de pédiatrie the first account of a case occurring in France, and M. Apert has also published in the *Semaine médicale* a documentary study of considerable importance. On account of the paucity of French literature bearing on this strange affection, it has appeared important to us to expatiate on the sources of knowledge in connection with its history, as a help to making a diagnosis; in the hope that other cases will be found in France, especially in Paris where Russian and Polish Jews are numerous enough. To show how little is known of this disease in France, we need but cite MM. Apert and Dubois' experience with the parents of the child shown at the Société de pédiatrie. On inquiry they were enabled to make a retrospective diagnosis as the parents told them that another of their children had been examined in many hospitals and finally died at the Hospital for Sick Children, without any positive diagnosis having been made.

That amaurotic family idiocy is rare, the fewness of the cases reported until now shows unmistakably. In reality the number of cases of which accounts have been published does not exceed one hundred. Two etiological conditions are well established: the predisposition of the Jewish race and its recurrence in the same family. Almost all the infants afflicted were Jews and for the most part Polish. Hence one is justified in calling it a racial malady. Observations made in America, in Italy by Marina, and in France by Apert and Dubois, confirm this opinion. According to Heveroch's statistics, of 86 cases 61 were Israelites, 7 Christians and in the remaining 17 the race was not indicated. The characteristic regarding its recurrence in the same family was noted by the writers who first described amaurotic idiocy and later observers have given it recognition. Tay's case showed three brothers affected; Kingdon's, five in a family of seven, and Falkenheim has described the genealogy of a family in which in three generations, eight children succumbed.

Besides these two characteristics nothing that may be considered accurate or positive as regards the etiology of the disease is known. The matter of sex plays no important part, for statistics show but a slight preponderance among girls. According to Klozenberg, the children, for the most part, belong to poor families, generally emigrants of the Polish Jewish class living in America, England, and Germany. Apert thinks it possible that the transplantation of these people may be its pathogenic cause. The consanguinity of the parents has often been mentioned as a possible provocative. This is not surprising since consanguineous marriages are decidedly frequent among the Jews. But at present consanguinity is no longer considered, by itself, an inciting cause; it merely decreases the child's resistance, especially in a family characterized by neuropathic defects. Again alcoholism, syphilis, and tuberculosis, on the part of the parents, seem not to be predisposing causes. On the other hand dementias and the psychoses affecting divers members of a family have at times been noted.

Consultations Gratuites.
Robert Macaire Médecin. Daumier (1830).
(From Holländer's Die Karikatur und Satire in der Medizin.)

HISTORICAL NOTES.

GRATUITOUS CONSULTATIONS.

Among the caricatures which speak for all times, none has a greater pertinency than Daumier's pictorial description of the physician who is willing to give so-called scientific advice to patients, provided the latter consent to pay a goodly sum for the medicaments. Although originally intended as a lampoon of the eminently respectable Citizen-king, Louis Philippe—a king who under the guise of smug respectability extorted large sums in the way of taxes from his beloved citizens—it can, without any detriment to its original value, be made applicable to all physicians of ancient and modern times who have indulged in the sycophantic role of benefactor to the poor. The part played by these exponents of the assailable theory of wickedness attaching to the bartering of knowledge but only honor redounding when a slight increase in the price of the medicine is exacted, is one that has lent itself only too often to the imaginings of dramatists and novelists, with results one would prefer not to mention.

Now though at times ridicule kills, it seems quite ineffective as regards our medical Robert Macaires, for though nearly eighty years have passed since Daumier drew his caricature with its mordant wit, and others of less talent have not failed to send their barbed arrows in the same direction, such is the ineffable gullibility of the masses that the Macaires continue to fatten, by allowing their affluent minds to figure the factitious price of medicine to be something like a louis d'or,—of course with the kindly and gracious rebate of ten centimes in case the bottle is returned. That this custom, though fortunately limited only to the minority in the medical profession, should show no signs of the ravages of time, or of the many attacks directed against it by all advocates of honor and probity, does not speak well for the masses; for were it not for their disinclination to pay for what they consider intangible—good sound advice born of the true spirit of science—and their inordinate love of the tangible in the shape of voluminous quantities of medicine, prosperity would no longer be the watchword of our modern Macaires.

We do a great deal of talking in these parlous times about the uplift of those whose benightment needs our cultured touch. We make strenuous efforts to point out to them the only course of living they ought to pursue to approach to the ideals we are ever willing to place before others, but regard as a negligible quantity when they concern our own welfare. But with the examples they almost daily see of quite well-to-do folk resorting to the sort of physician who underestimates the little knowledge he possesses by altruistically sharing it with his patients free of charge, and overestimates the price of medicine, we can not hope for much in the way of earnest attention to efforts made in their behalf. Hence we are of the opinion that as long as human credulity endures, the Macaires will not be in want of a clientage, and this despite ridicule and invective. And moreover the clientage will not waver in its allegiance nor will the harsh critic of methods inviting condemnation be unvisited by the rebuttal that the patient really got, in a quantitative sense, what he paid for; and that the physician has surely the right to salve his conscience, for though his moral poise may be queer, judged by an unkind world, did he not disclose a great deal of medical knowledge to his patient without remuneration?

SOCIETY PROCEEDINGS.

ST. LOUIS SURGICAL SOCIETY.

Meeting of February 12, 1908.

Dr. Carson exhibited a specimen of cancer of the rectum.

Dr. M. B. Clopton read a paper entitled "Unilateral Dislocation of the Cervical Vertebræ," for which see page 569.

DISCUSSION.

Dr. Mudd said he had been much impressed with the simplicity of the reduction in this case. He thought it was not probable that the reduction had been completed the first time, when he had manipulated the case himself, notwithstanding Dr. Clopton's generous statements. In the diagnosis of these cases he believed the radiograph was extremely valuable; he mentioned a case, seen a number of years ago with his brother, in which the symptoms prevented a positive diagnosis but at post mortem an extensive fracture at the base was found. Had the x ray been in use at that time the diagnosis would have been made plain.

Dr. Allison called attention to one of the radiographs exhibited by Dr. Clopton, showing a dislocation at the sixth cervical vertebra; and complimented Dr. Clopton on this picture, which was a lateral view of the spinal column in this region,—a very difficult picture to obtain. Regarding the injury which produces bilateral dislocation forward in the cervical region of the spine, he said it was slight in many cases, and he believed many cases go unrecognized and perhaps live the rest of their lives under the impression that they have wry neck. Muscular contraction alone is sufficient to produce a dislocation of this character. A case is reported in the literature where an insane patient, who was confined in a straight jacket, so wrenched his head that he produced a dislocation in the cervical region of the spine and died instantly—probably from injury to the phrenic nerve. The value of the x ray, as a means of diagnosis is distinctly shown in the cases reported by the essayist.

Dr. Clopton, in closing, spoke of the ease with which reduction had been accomplished in the cases reported. He was not informed whether this was the rule in such cases, although Walton states that reduction is accomplished without difficulty when the patient is under an anesthetic and in the sitting position. There is only one case on record, reported by Ashhurst, of cervical dislocation dying at the time of reduction. While everyone speaks of the danger of reduction the speaker was unable to find any other fatal case than the one mentioned by Ashhurst, and the records seem to confirm his belief that the procedure is in reality very simple.

BOOK REVIEWS.

MEDICAL LECTURES AND APHORISMS.—By Samuel Gee, M. D. Third Edition. 8vo. Pp. viii—308. London: Henry Frowde, Oxford University Press; Hodder & Stoughton, Warwick Square, E. C., 1908.

In looking over Dr. Gee's entertaining little volume one is struck by its general resemblance to Oliver Wendell Holmes's Medical Essays. In the same genial manner as our autocrat, he rambles about among medical odds and ends, and if he proses more frequently than his great predecessor and is never quite so sparkling, his definite opinions and clear cut aphorisms make interesting reading. He is evidently an English physician of the old school, speaking from a lifetime of experience and close observation, though not always entirely in sympathy with modern scientific medicine. Thus in his essay on Sects in Medicine, there are for him four main medical sects: the Dogmatic, which includes most of ancient and medieval medicine; the Methodic, of which the homeopaths are striking examples; the Pharmacologic, to which modern experimental medicine tends, and the Empiric, towards which he himself most leans. He does not much believe in modern pharmacology and holds that physiology with its vivisection has contributed little if anything to practical medicine.

"When," he says, "the greatest of discoveries in medicine had been made, namely, the circulation of the blood, thoughtful men were surprised to find that no corresponding improvement in medical treatment followed. So little do therapeutics depend upon physiology. * * * Again it is not possible to predict from the operation of a drug upon the healthy body what the effect will be upon a diseased body, simply because the conditions are not the same in both cases. Obviously no experiments upon the healthy could discover that iodide of potassium is a remedy for some forms of syphilis. Lastly, physiological experiment has hitherto contributed little to practical therapeutics. Indeed its indications have been more often erroneous than not." What wonder that, with eminent physicians holding such opinions, the English anti-vivisectionists should have been so successful in their propaganda. Except for two appendices, the book concludes with 272 aphorisms, many of which are most suggestive. Among the shorter ones are:

"9. In any case of phthisis the disease is more extensive than the physical signs would seem to indicate.

"260. Predigestion of food given by the mouth is of very little value in any disease.

"271. A letter containing four pages or more, closely written and narrating the writer's own disorders, is a sure and certain sign of hypochondria."

In general, it may be said that the greater the reader's own clinical experience, the more interesting and entertaining he will probably find the book.

DIETS IN TUBERCULOSIS. PRINCIPLES AND ECONOMICS.—By Noel Dean Bardswell, M. D., M. R. C. P., F. R. S. (Edin.), and John Ellis Chapman, M. R. C. S., L. R. C. P. 8vo. Pp. viii—184. London: Henry Frowde, Oxford University Press; Hodder & Stoughton, Warwick Square, E. C. 1908.

It may be said without exaggeration that the outlook for the consumptive has, during the past twenty-five years, been completely revolutionized. Diet and hygiene have replaced drugs in the treatment of tuberculosis and have made the home treatment of tuberculosis satisfactory to a degree undreamed of a few years ago. The best results are however still obtained in sanatoria, and it is only the great expense of sanatorium treatment to the state or the individual that prevents a wider utilization of this curative measure. The writers have investigated this problem and have found that the reason for the excessive cost of sanatorium treatment lies in the food bill. Sanatoria for tuberculosis must necessarily be lavish in their dietaries, but too frequently their lavishness is wasteful and unscientific. A careful investigation upon an extensive tuberculous material has shown that dietaries can be worked out that are ample in their nutritive value and most successful in their results and yet cost but a fraction of that usually expended for food. This can best be accomplished by reducing the amount of meat and omitting the more expensive vegetables. Adequate and successful dietaries for tuberculous patients need

cost in England only from 4s. 6d. ($1.12) to 7s. ($1.75) per week. For anyone interested in the management of a tuberculosis sanitarium, the book is indispensable.

PERSONAL HYGIENE IN TROPICAL AND SEMI-TROPICAL COUNTRIES. A POPULAR MANUAL, WRITTEN FOR THE USE OF FOREIGNERS IN THE PHILIPPINES, CUBA AND OTHER PORTIONS OF THE TROPICS.—By Isaac Williams Brewer, M. D. Philadelphia: F. A. Davis Co., n. d.

In a small volume that can easily be carried in the coat pocket, the author has condensed to main precautionary measures that inhabitants of the temperate zone must take to render a stay in the tropics free from danger. It is clear that housekeeping in the tropics is by no means an unmixed joy. Screens must be kept in perfect repair, vermin must be kept down, all stagnant water even in the tiniest puddles must be guarded against, all the water even that used for bathing must be boiled. Constant vigilance is here the price of health. The greatest difficulty lies in the sanitary disposal of excreta where there is no modern sewer system. Whatever method is used, the removal of the excreta must ultimately be left to native servants, and these will never carry out sanitary precautions unless constantly watched. No successful method of obviating this difficulty has as yet been discovered.

THE BLUES, SPLANCHNIC NEURASTHENIA, CAUSES AND CURE.—By Albert Abrams, A. M., M. D., F. R. M. S. 8vo. Pp. 287. Illustrated. Third Edition. New York: E. B. Treat & Co. 1908.

That the prolonged mental depression commonly known as "The Blues" is intimately associated with habitual constipation and the accompanying chronic intestinal auto-intoxication is an observation that has often been made. In his book Dr. Abrams defends this thesis in extenso and suggests a number of excellent therapeutic measures, some of them original with him. Among these the chief are abdominal and respiratory exercises, hepatic and abdominal massage, abdominal supporters, and the use of the sinusoidal current. These measures are described in sufficient detail to enable the reader to carry them out intelligently, and whoever has the persistence to wade through the book will find it rich in suggestive and practical ideas. Unfortunately these are buried in a mass of rambling discussion of matters that often have little bearing on the point at issue. The liberal use of an editorial blue pencil, reducing the book to the size of a large pamphlet, would add greatly to its incisiveness and would increase its value.

DIE BAKTERIELLEN NAHRUNGSMITTELVERGIFTUNGEN.—Von Oberstabsarzt Prof. Dr. A. Dieudonné in Muenchen. Wuerzburger Abhandlungen aus dem Gesamtgebiet der praktischen Medizin. Herausgegeben von Prof. Dr. Joh. Mueller und Prof. Dr. Otto Seifert. VIII Band. 3-4 Heft. Wuerzburg. Curt Kabitzsch (A. Stuber's Verlag). 1908.

This number of the excellent Wuerzburger series discusses concisely but adequately the bacterial diseases due to damaged or infected food. Of these the chief are the meat-poisonings due to the meat of sick animals (bac. enteritidis or bac. paratyphi), to putrified meat (bac. proteus or coli) and to sausage (bac. botulinus), the fish and oyster poisonings, that due to cheese, ice cream, preserves, and much more rarely to vegetables. The bacteriology, symptomatology and treatment is discussed in detail.

BRADYCARDIA AND TACHYCARDIA, WITH COMPLETE ENGLISH ABSTRACTS AND FOREIGN BIBLIOGRAPHY. PART II. IN A SERIES OF MONOGRAPHS ON THE SYMPTOMATOLOGY AND DIAGNOSIS OF DISORDERS OF RESPIRATION AND CIRCULATION.—By Prof. Edmund von Neusser, Professor of the Second Medical Clinic, Vienna; Associate Editor of Nothnagel's Practice of Medicine. Authorized English Translation by Andrew MacFarlane, M. D., Professor of Medical Jurisprudence and Physical Diagnosis, Albany Medical College, etc. 150 pages. Cloth, price $1.25, prepaid. New York: E. B. Treat & Co. 1908.

Part I. of Prof. von Neusser's book, devoted to dyspnœa and cyanosis, was reviewed some months ago. Part II. on bradycardia and tachycardia, the translation of which has just appeared, is conducted on the same lines. After discussing in extenso the various poisons and diseases that produce bradycardia, he takes up briefly the prognosis and treatment of this symptom. Tachycardia is handled in the same manner. In an appendix Dr. Douglas adds a bibliography with abstracts of the most important contributions to the subject in the English language.

APPLIED PHYSIOLOGY. A MANUAL SHOWING FUNCTIONS OF THE VARIOUS ORGANS IN DISEASE.—By Frederick A. Rhodes, M. D. 8vo. Pp. 206. Medical Press, Pittsburg. 1907.

Those who desire their physiology neatly packed in small parcels for memorizing, will doubtless be pleased with Dr. Rhodes's book. The English shows a proud independence of the laws of grammar and rhetoric, the punctuation is according to rules hitherto not recognized, and the numerous typographic errors complete a harmonious whole. The proper place for the book is the waste-basket.

LE CANCER. Prophylaxie, étiologie, traitement par le docteur Sobre-Cases, médecin de l'hôpital Rawson (Buenos Aires). 8vo. Pp. 224. Paris: G. Steinheil, Editeur. 1908.

It is a pleasure to welcome so creditable a monograph from one of our South American brethren. It can hardly be said to contain anything novel, either in opinion or in experiment, but is an attempt clearly and concisely to present what seems to be of permanent value in our present views on malignant tumors. Not the least valuable portion of the treatise is the extensive bibliography appended. The author's limitations are however suggested by the observation that of the 173 references in his bibliography, one is Spanish, four English and three German, the remainder being to French publications.

PRACTICAL LIFE INSURANCE EXAMINATIONS, WITH A CHAPTER ON THE INSURANCE OF SUBSTANDARD LIVES.—By Murray Elliott Ramsey, M. D. 8vo. Pp. 231. Philadelphia and London: J. B. Lippincott Co. 1908.

The work of the insurance examiner differs essentially from that of the clinician. The latter meets those who confess themselves ill, the former those who profess themselves well. Hence even the experienced physician who undertakes insurance work may well require instruction such as Dr. Ramsey offers.

GOLDEN RULES OF DIETETICS. The General Principles and Empiric Knowledge of Human Nutrition; Analytic Tables of Foodstuffs; Diet Lists and Rules for Infant Feeding and for Feeding in Various Diseases.—By A. L. Benedict, A. M., M. D. 8vo. Pp. 407. C. V. Mosby Medical Book and Publishing Company, St. Louis. 1908.

This is a concise but reasonably complete summary of modern views in dietetics. Since much of what is best in dietetics has appeared in German and French and is not easily accessible in our language, a book such as this doubtless will supply a need.

A TEXT-BOOK OF PRACTICAL GYNECOLOGY. For Practitioners and Students.—By D. Tod Gilliam, M. D., Emeritus Professor of Gynecology in Starling-Ohio Medical College. Second, Revised Edition. Illustrated with 350 engravings, a colored frontispiece, and 13 full-page half-tone plates. 642 royal octavo pages. Extra cloth, $4.50, net; half morocco, gilt top, $6.00, net. Sold only by subscription. F. A. Davis Company, Publishers, Philadelphia.

This book presents gynecology in a plain and practical form. Bibliographic references or quotations from other authors are omitted. Nevertheless the book is not dogmatic; thus, e. g., in many instances various methods of operation are detailed. Progress, especially in technique, has necessitated various changes in this second edition which also has been improved by the addition of a regional index of symptoms for the use of the student and practitioner.

OBSTETRICS FOR NURSES.—By Joseph B. DeLee, M. D., Professor of Obstetrics in the Northwestern University Medical School, Chicago. Second Revised Edition. 12mo of 510 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company. Cloth, $2.50 net.

This interesting little book undoubtedly has met with that appreciation which it so well deserves. The publication of a second edition has become necessary, and the author has taken this opportunity to improve his work by numerous changes both in the text and the illustrations.

ICONOGRAPHIE OBSTETRICALE. Par A. Ribemont-Dessaignes, Agrégé de la Fáculte de Médecin de Paris, etc., etc. Masson et Cie, Editeurs. Paris. 1907.

The author of this most important contribution to obstetric literature has for the last thirty years collected colored sketches of all the anomalies he has encountered in the service of the largest maternities of Paris. These excellent

sketches will now be presented in a series of pamphlets, of which the first two have appeared. The one is devoted to the retained dead fetus, the other to fetal malformations, especially those caused by amniotic bands. Each pamphlet contains about 10 pages of text and 12 plates presenting in natural colors numerous of the most interesting and rarest specimens. This iconography will prove of incalculable value especially to all teachers of obstetrics.

DISEASES OF INFANCY AND CHILDHOOD. Their Dietetic, Hygienic and Medical Treatment. A text-book designed for Practitioners and Students in Medicine.—By Louis Fischer, M. D., Visiting Physician to the Willard Parker and Riverside Hospitals of New York City; former Instructor in Diseases of Children at the New York Post-Graduate Medical School and Hospital, etc. With 303 text illustrations, several in colors, and 27 full-page half-tone and color plates. 979 royal octavo pages. Extra cloth, $6.50 net; half morocco, $8.00 net. Sold only by subscription. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia, Pa.

In this age of multiplicity of text-books one must hunt for reasons for the appearance of new ones. The work under consideration deserves commendation particularly for its careful attention to detail with reference to symptomatology diagnosis, and especially as regards treatment. The author has drawn upon a large experience based upon extensive hospital and private practice. Infant feeding is considered very fully, and the various methods discussed without prejudice. The infectious diseases have a most adequate presentation. The discussion of diphtheria in its various phases covers nearly 90 pages and is an excellent resume of present day knowledge of the subject. Among the addenda of value are discussions of dietary, milk adulteration, anæsthetics in children, drug administration in children and methods of disinfection. The book is excellently illustrated.

THE CLIMATIC TREATMENT OF CHILDREN.—By Frederick L. Wachenheim, M. D., Chief of Clinic, Children's Department, Mount Sinai Hospital Dispensary, New York: Rebman Company, 1123 Broadway. Pages, 400.

This monograph really fills a vacant place in modern pediatric literature. In addition to a very great amount of detailed information with reference to the climatology of temperate North America, there is a sufficiently full discussion of health resorts, both American and foreign. A chapter devoted to the general principles of climatology and their application to childhood introduces this general consideration of the subject.

Of the special chapters, the one on the climatic management of the normal child is particularly noteworthy as presenting a model presentation of a rather difficult subject. The author takes firm ground against the general adoption of "systems of hardening" for all sorts of children, urging strict individualization with reference to hardening procedures, e. g., hydrotherapy and intentional exposure. He is inclined to think that even Hecker, who is generally heralded as the chief of conservatives in this field, is a bit too radical in some respects.

The climatic treatment of scrophulosis and tuberculosis are considered very fully; the importance of such treatment in the common surgical tuberculosis of childhood, receiving adequate attention.

The value of climatotherapy in some of the constitutional and in many of the visceral diseases is pointed out, the author's contentions being supported by the weight of authority other than his own extensive experience in many instances.

The book will surely prove of interest and value to pediatrists.

THE PANCREAS: ITS SURGERY AND PATHOLOGY.—By A. W. Mayo Robson (London) and P. J. Cammidge (London). Illustrated. Philadelphia and London: W. B. Saunders Company. 1907.

As has been said that one of the best books for a student in surgery is Osler's Practice of Medicine, so it might be equally appropriately said that for a medical man one of the best books on diseases of the pancreas is this treatise on its surgery and pathology. Not that the technical details of the operative side have been minimized, but because the main considerations in diseases of this organ are the pathology, symptoms and diagnosis, and nowhere are they more completely or more clearly put than in this volume. The embryology and anatomy, both comparative and human, are fully explained, and a large part of the work is given to the clinical diagnosis of pancreatic disorders, and the relation of the pancreas to diabetes. The "pancreatic reaction" (Cammidge) is elucidated.